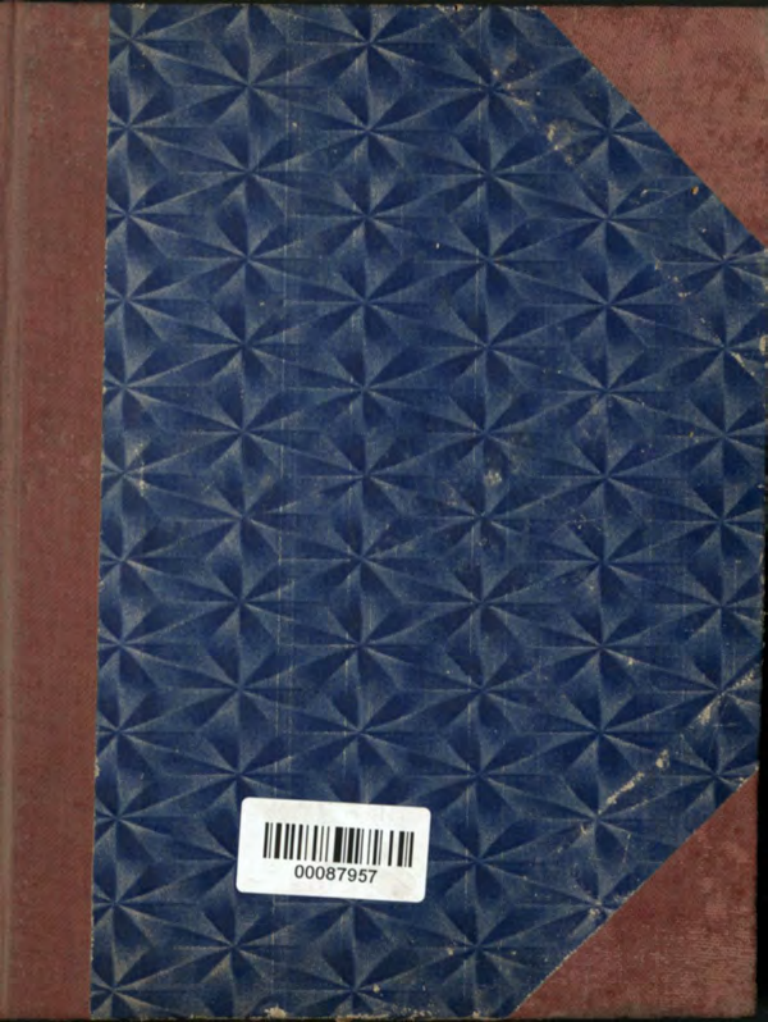
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MONOGRAPH

OF THE GENUS

VOLUTA.

"A convoluted shell,
In frolic placed upon my shallop's side;—
A wondrous labyrinth where erst did dwell
A creature of the Indian seas;—a cell
Fitted for Aphrodite."—*Robert Hunt.*

LIB
OF TH
BOMB
BRANCH
OF THE
ROYAL ASIATIC

1855

CONCHOLOGIA ICONICA:

OR,

ILLUSTRATIONS

OF THE

SHELLS OF MOLLUSCOUS ANIMALS.

MT-f.4

VOL. VI.

CONTAINING MONOGRAPHS OF THE GENERA

VOLUTA.	ARTEMIS.	STROMBUS.
FISSURELLA.	LUCINA.	PTEROCERA.
PARTULA.	HEMIPECTEN.	ROSTELLARIA.
ACHATINELLA.	OLIVA.	STRUTHIOLARIA.

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QL

BY

LOVELL AUGUSTUS REEVE, F.L.S., F.Z.S.,

CORRESPONDING MEMBER OF THE NATURAL HISTORY SOCIETY OF WIRTEMBERG, AND OF THE LYCEUM OF NATURAL HISTORY OF NEW YORK, AND HONORARY MEMBER OF THE IPSWICH MUSEUM.

"Almighty Cause! 'tis thy preserving care,
That keeps thy works for ever fresh and fair:
Hence life acknowledges its glorious cause,
And matter owns it great disposer's laws;
Hence flow the forms and properties of things;
Hence rises harmony and order springs."—*Boyse.*

LONDON:
REEVE AND BENHAM, HENRIETTA STREET, COVENT GARDEN.
1851.

00087957

1. a.

1. b.

2.

3. a.

3. b.

G.B.S. del. et lith.

R.B. & R. imp.

VOLUTA.

PLATE I.

Genus VOLUTA, *Linnæus.*

Testa ovata vel fusiformis, basi latè emarginata, spirâ unâ brevi, nunc acuminato-exsertâ, apice plerumque plus minus oblatâ papillari, interdum tenuè nodulosâ, anfractibus lævibus vel tuberculatis, sæpe radè costatis, interdum autem rarò cancellatis, columellâ fortiter plicatâ, plicis duabus ad quinque, interdum plicis tenuibus numerosis suprà, apertura subauplâ, labro parum incrassato, unaquaque crenato. Operculum corneum.

Shell ovate or fusiform, broadly emarginated at the base, spire now short, now acuminately exserted, apex generally more or less obtusely papillary, sometimes finely noduled, whorls smooth or tuberculated, often rudely ribbed, sometimes but rarely cancellated, columella strongly plaited, plaits two to five in number, with sometimes numerous fine plaits above, aperture rather large, lip but little thickened, never crenated. Operculum horny.

The Volutes, termed by an accomplished writer the nobles of Testacea, just as Linnæus, in his admiration of the Palms, called them the princes of the vegetable world, have always been a favourite genus among collectors. They present an agreeable variety of form, a lively arrangement of colours, and many are of eminent rarity. In its geographical range the genus is peculiarly Australian; and owing to the diffusion of our empire into that distant region, whose fauna and flora are alike marked with a character singularly distinct from those of any other part of the world, we have become possessed of many species, and varieties of species, which, from a country more generally accessible, would have been more equally shared by other European cabinets. Of four-and-twenty species truly ascertained to be from that locality, only seven were known to Lamarck.

In reviewing the various modifications of character, our attention should be first directed to the most permanent feature of the genus,—the plaits of the columella. These are mostly four or five in number, strongly developed and winding round the pillar somewhat obliquely. In some few species they are reduced to two and three in number, and are more rudely constructed. Occasionally they vary a little in different individuals of the same species. In others there are four or five strong plaits, and several finer rudimentary plaits in addition. In form the Volutes are rather inconstant; the same species being sometimes elongately convoluted, the spire proportionably exserted, and sometimes shorter and contracted. The same species is often smooth or tubercled, just as a Cone is smooth or granulated; and the closer and more contracted the growth of an individual, the thicker and more prominently is the shell raised in tubercles. The best characters for the distinction of species are to be found in certain parts of the shell, such as the apex, the base, the general contour of the body-whorl, its texture and substance, the outline of the aperture, and, above all, in the general design of painting. However much a species may differ in its plan of convolution, the parts referred to are the same; and however variable a species may be in colour, there is but one idea in its pattern and manner of distribution. There is more constancy in the pencil of the Volute, than in the colours of its palette.

In most species of the genus *Voluta* the apex is blunt and papillary; that is, the first two or three whorls, constituting the nucleus of the shell, are smooth and polished, forming what has been called a papilla, before the appearance of any pattern or sculpture. In *V. fulgetrum* and *papillaris* the apex is of a very rude, uncouth growth; in *V. ancilla* it has a peculiar rudely acuminated twist; in *V. festiva* and *respetrix* it has the appearance of a small ivory ball; in *V. scapha* and *imperialis* the apex is very regularly formed, but still broad and obtuse; in *V. vespertilio* and *nivosa* it is slightly nodulous; in *V. volva* and *reticulata* it is papillary but yet acuminated, the sutures being filled up with enamel; in *V. harpa* and *Guildingii* it is sharp, without any papillary structure; and all these modifications of the apex are accompanied with distinctive features in other parts of the shell, serving to characterise groups, and so to divide the genus into subgenera or sections. Except in the little *V. abyssicola*, the first living representative of a group of fossil species found abundantly in the Tertiary Beds of Great Britain, there is no transverse sculpture in this genus.

Linnæus included under the head of *Voluta* all shells having a row of plaits winding round the columella, without considering the nature or habits of their animal occupants. The *Tornatellæ*, whose shells are entire at the base; the *Auriculæ*, which, inhabiting the banks of stagnant water, are amphibious; the *Turbinellæ*, which are canaliculated; and the *Marginellæ*, whose shell is entirely enveloped by the soft parts, were all associated in the 'Systema Naturæ' under the same generic type. Even the 'Bonts' and 'Melons,' 'Les Gondolières' of Lamarck, are now separated from the Volutes, on account of their ventricose form and texture, to form a genus of themselves—*Cymbium*; and some authors have gone so far as to divide this again into *Cymba* and *Melo*.

The animal of *Voluta* differs little from that of *Cymbium*, except in being smaller, less expansile, and more brilliantly coloured. It has the same peculiar lobed dilation of the respiratory siphon, and the eyes, as in that genus, are rather distant from the tentacles. The species hitherto figured in a living state are brilliantly coloured, but there is no similarity between the pattern or colour of the animal and its shell. The *V. vespertilio* is of a bright yellow, marked with longitudinal interrupted black lines;

the *V. angulata*, of a rusty orange, marked with dark spots like a leopard; whilst the *V. nivosa* is purple, marked with unequal black spots edged with white. *V. musica* is the only species in which an operculum has been observed. It is small, oblong, thin, and horny, taken by Mr. Cuming from the living animal.

The geographical distribution of the Volutes is worthy of careful attention. Of sixty-one species at present known, twenty-four, as already stated, inhabit the coast of Australia. In the great eastern ocean, from Java to Japan, only twelve are found. Seven are from different parts of the coast of Africa, including Madagascar, six from South America, east and west, and four inhabit the West Indies and the Gulf of Mexico. Of the remaining eight species the locality is not known.

It may be observed, from this statement, that the Volutes have peculiarly a southern range. Only sixteen species are found north of the equator, whilst there are thirty-seven in the Southern Hemisphere, two of which, *V. Magellanica* and *ancilla*, of large size, inhabit the coast of Patagonia and Tierra del Fuego, in the same parallel of latitude with Scotland and Hudson's Bay in the opposite hemisphere. Yet the Volutes do not approach the Mediterranean or any part of Europe; and it is curious to observe that the fine and beautifully coloured *V. musica* is the only species found in the West Indies, except the little *V. Guildingii*. *V. guttata*, a small species allied to this, inhabits the coast of Honduras; and it is believed on good authority that the celebrated *V. Junonia*, of which only a few specimens are known, is from the Gulf of Mexico, probably the northern shore, near the mouth of the Appalachicola River. Only two small species have been found on the western coast of South America, *V. harpa* and *Cumingii*; and of the African species the precise localities are unknown, excepting the *V. Delesserliana* of Madagascar, and the beautifully cancellated *V. abyssicola*, dredged from a bank of dead shells and iron stones, at the depth of 132 fathoms, off the Cape of Good Hope.

Species 1. (Mus. Cuming.)

VOLUTA CUMINGII. *Vol. testâ ovato-pyramidali, crassissima, spirâ acuminatâ, apice acutâ, anfractibus superne concavo-declivibus, deinde nodulosis, nodulis in costis tumidis descendentibus, columellâ triplicatâ, labro incrassato, intus medio subcontracto et obtusè dentato; albidâ, cæruleo spadiceoque nebulosâ, hic illic interruptè nigro-vittatâ, apertura fauce aurantiâ.*

CUMING'S VOLUTE. Shell ovately pyramidal, very thick, spire acuminated, sharp at the apex, whorls concavely slanting round the upper part, then nodose, nodules descending in swollen ribs, columella three-plaited, lip thickened, a little contracted and obtusely toothed in the middle; whitish, clouded with blue and brown, and filleted here and there in an interrupted manner with black, interior of the sperture orange.

BRODERIP, Pro. Zool. Soc., 1832, p. 33.

Hab. Gulf of Fonseca, San Salvador, Central America (dredged at the depth of nine fathoms); Cuming.

A thick solid shell, in which the columellar plaits are transversely sculptured, and the lip faintly toothed within. Externally the shell is characterized by a row of swollen ribs which are noduled round the upper part. The colouring is of a mixed pattern of black, blue, and brown.

Species 2. (Mus. Brit.)

VOLUTA MAGNIFICA. *Vol. testâ ovato-ventricosâ, tenuiculâ, subanfractibus inflatâ, spirâ brevisculâ, apice papillari, anfractibus brevibus, superiè leviter concavo-angulatis, basi subcontractis, columellâ quadriplicatâ, aperturâ patulâ, labro simplici, vix incrassatâ, fulescente, ferrugineo-castaneo nebulatâ et saturatiorè bifasciatâ, maculis pallidis transversis lanceolato-angulatis interruptâ, columellâ aurantio-carneolâ.*

THE MAGNIFICENT VOLUTE. Shell ovately ventricose, rather thin, somewhat largely inflated, spire rather short, papillary at the apex, whorls smooth, slightly concavely angled round the upper part, a little contracted at the base, columella four-plaited, aperture wide open, lip simple, scarcely thickened; light fulvous, clouded and more darkly broad-banded with rusty chestnut, leaving transverse lanceolately angled pale spots, columella orange-carnelian.

CHEMNITZ, Conch. Cab. vol. xi. p. 8. pl. 174–5. f. 1693–4.

Hab. Rose Bay, Port Jackson, Australia; Stutchbury.

Well known by Chemnitz's admirable figures, this species remains unapproached by any other. It is of comparatively light growth, and never tuberculed.

Species 3. (Mus. Cuming.)

VOLUTA HARPA. *Vol. testâ oblongo-ovatâ, crassissimâ, spirâ brevisculâ, apice acutè acuminatâ, anfractibus lævibus vel minutè striatis, convexo-tumidis, longitudinaliter latè superficialiter sulcatis, columellâ transversim triplicatâ, basi recurvâ, aperturâ angustâ, labro valdè varicoso, intus obtusè dentato; fulvescente-aurantiâ, cæruleo-castaneoque undique nebulatâ et variegatâ.*

THE HARP VOLUTE. Shell oblong-ovate, very thick, spire rather short, sharply acuminated at the apex, whorls smooth or minutely striated, longitudinally broadly superficially grooved, columella transversely three-plaited, recurved at the base, aperture narrow, lip rudely varicose, obtusely toothed; fulvous orange, clouded and variegated throughout with blue and chestnut.

BARNES, Annals of the Lyceum Nat. Hist. of New York, vol. i. p. 139. pl. 9. f. 4.

Hab. St. Elena, West Columbia (from sandy mud at the depth of eight fathoms); Cuming.

A sharply ridged acuminated species, of the same type, colour, and general aspect, as *V. Cumingii*.

4. a.

4. b.

4. c.

4. d.

G.B.S. del. et lith.

R.B. & R. imp.

VOLUTA.

PLATE II.

Species 4. (Fig. *a, b, d*, Mus. Cuming; Fig. *c*, Mus. Brit.)

VOLUTA AULICA. *Vol. testâ oblongo-ovatâ, crassâ, spirâ brevisculâ, subexsertâ, apice papillam muticam subamplam formante, anfractibus subtilissimè striatis, superiè declivibus, sæpissimè leviter angulatis, ad angulum tuberculatis, tuberculis compressis, pauloluum descendentibus, interdum spinoso-squamatis, columellâ fortiter quadriplicatâ, aperturâ longisculâ, labro simplici; pallidè aurantio-carneâ, lineis tenuibus longitudinalibus maculisque grandibus coccineo-rufis variè pictâ, interdum latifasciatâ et variegatâ, maculis pogpaucis nigerrimo-fuscis.*

THE COURTIER VOLUTE. Shell oblong-ovate, thick, spire rather short, somewhat exserted, forming a rather large smooth papilla, whorls very finely striated, slanting round the upper part, most frequently slightly angled, tubercled at the angle, tubercles compressed, a little descending, sometimes spinosely squamate, columella strongly four-plaited, aperture rather long, lip simple; pale orange-flesh tinged, variously painted with scarlet-red blotches and fine longitudinal lines, sometimes broadly banded and mottled, with a few black-brown spots.

SOLANDER. Sowerby, Tankerville Catalogue, App. p. 29. pl. 3.

Hab. Sooloo Archipelago; Cuming.

This eminently beautiful species has been known for many years by a specimen contained in the celebrated museum of the last century belonging to the Duchess of Portland, described in the Portland Catalogue as follows, by Dr. Solander, a Swedish naturalist and pupil of Linnæus, who, upon coming to this country, accompanied Sir Joseph Banks in his voyage round the world with Capt. Cook, and was subsequently employed at the British Museum in arranging the valuable collections of natural history resulting from their researches. "No. 4021. *Voluta aulica*, a beautiful red-clouded species of the Wild Music kind, its country unknown, unique." A description in Latin may also be found among the Banksian manuscripts in the British Museum. This specimen passed from the Portland Museum into that of M. Calonne, then into the collections of the Earl of Tankerville and of Mr. Broderip, and lastly into that of our national museum, where it remained unique until the return of Mr. Cuming from his voyage among the Philippine Islands, during which he obtained several magnificent specimens from the Sooloo Archipelago, mostly differing from the original one in being tuberculated. Of these Mr. Broderip characterized six new varieties in the Proceedings of the Zoological Society for 1842. The accompanying figures, representing the most remarkable, were described by Mr. Broderip as follows:—

Fig. 4 *a*.

"Nodulous, whitish, lineated with very close-set delicate pale yellowish undulated lines; body-whorl girt by two broad yellowish-red bands mottled finely with the ground colour. The upper band is bordered above with a row of rich dark-brown spots approaching closely to black, each spot being placed upon a nodule; the lower edge of this band is serrated as it were, and each of the teeth is marked with a spot immediately under the upper spots, but more dashed and somewhat less intense. The upper edge of the lower band is marked in a similar manner, but the spots are less defined. Above the shoulder of the body-whorl is a band of similar colour, with its lower edge dashed with markings of the same colour as those which ornament the other bands, and at similar intervals. Two similarly coloured spots appear below the third and fourth nodule of the spire just above the suture of the body-whorl, which suture almost hides one below the second of those nodules counting from the edge of the lip. Upper part of the spiral whorls coloured after the same pattern, and brought out by the pale ground-colour of the lower part. Apex yellowish-red."

Duly inspired by the novelty of the specimen and its lovely arrangement of colours, Mr. Broderip adds, "This description will convey a very faint notion of one of the most beautiful shells I ever saw."

Fig. 4 *b*.

"Flesh-coloured, nodulous, lineated longitudinally with close-set, red, somewhat undulated lines, mottled here and there with white, girt by two interrupted rich red bands, spire mottled with red and white, apex coral-red."

Fig. 4 *c*.

The original specimen of the Portland Collection, now in the British Museum, devoid of tubercles and painted with large flakes of a dull brick-red colour.

Fig. 4 *d*.

"Bluntly but highly nodulous on the back, the nodules on the lower side rather sharper. Whitish, lineated longitudinally with close-set undulated livid lines, blotched with clouds and dashes of livid red. A broad pale band girts the body-whorl below the middle. Apex reddish-white."

5.a.

5.b.

6.

7.a

7.b

G.B.S. del. et lith.

H.B. & R. imp.

VOLUTA.

PLATE III.

Species 5. (Mus. Cuming.)

VOLUTA DELESSERTIANA. *Vol. testâ fusiformi-oblongâ, basi subrecurvâ, spirâ acuminatâ, anfractibus longitudinaliter lyrato-costatis, costis numerosis, angustis, acutiusculis, subflexuosis, interstitiis striatis, transversim obsolete pertuso-sulcatis, columellâ subarcuatâ, basi triplicatâ, plicis numerosis tenuibus filiformibus suprà exsculptâ, aperturâ oblongo-ovatâ, labro incrassato, varicoso, margine acuto; caruleâ, aurantio-rufo profusè tinctâ, lineis castaneis et rufis transversim notatâ, aperturæ fauce albâ.*

DELESSERT'S VOLUTE. Shell fusiformly oblong, slightly recurved at the base, spire acuminated, apex sharp, whorls longitudinally lyrately ribbed, ribs numerous, narrow, rather sharp, somewhat flexuous, interstices striated, transversely obsoletely marked with faint pricked grooves, columella slightly arched, three-plaited at the base, with numerous fine thread-like plaits above, aperture oblong-ovate, lip thickened, varicose, sharp at the edge; flesh-coloured, profusely stained with orange-red, transversely marked with red and chestnut lines, interior of the aperture white.

PETIT, Magasin de Zoologie, 1842, pl. 57.

Hab. Tiger Bay, Madagascar.

Distinguished from the *V. mitræformis*, to which it is the nearest allied species, by its more acuminated growth, narrower and more numerous ribs, and bright orange-red colour.

Species 6. (Mus. Cuming.)

VOLUTA FUSIFORMIS. *Vol. testâ subelongato-fusiformi, basi contractâ et subampliter emarginatâ, spirâ acuminatâ, apice papillari, anfractibus supernè declivibus, deinde tumidiusculis, lævibus, sub lente minutè decussatim striatis, columellâ tri-quadriplicatâ, plicis perobliquis, inconspicuis, aperturâ subangustâ, labro tenuiculo, parum reflexo; fuscescente-albâ, lineis pallidè castaneis, triangulariter configuratis, laxè reticulatis, columellâ et aperturæ fauce aurantio-carneolâ.*

THE SPINDLE-SHAPED VOLUTE. Shell somewhat elongately fusiform, contracted and rather largely emarginated at the base, spire acuminated, papillary at the apex, whorls slanting round the upper part, then a little swollen, smooth, minutely decussately striated beneath the lens, columella three-four-plaited, plaits very oblique, inconspicuous, aperture rather narrow, lip rather thin, but little reflected; brownish white, loosely reticulated with light chestnut triangularly configured lines, columella and interior of the aperture orange-carnelion.

SWAINSON, Appendix to Bligh Catalogue (not of Kiener).
Voluta Sowerbyi (*pars*), Kiener.

Hab. Australia.

It has been remarked that this beautiful species is scarcely distinguishable from *V. papillaris*, but a comparison of the figures of each in this monograph, will show that, independent of form, they are characterized by a very different design of painting. The apex is much less papillary in the species under consideration, and the shell is uniformly larger, and of a more attenuated growth. The pattern consists merely of a loose irregular net-work of light chestnut, not disposed in bands of clouded blotches, nor exhibiting any sharply-defined triangular light spots.

Species 7. (Mus. Cuming.)

VOLUTA MITRÆFORMIS. *Vol. testâ fusiformi-ovatâ, spirâ subacuminatâ, anfractibus longitudinaliter lyrato-costatis, costis obtusis, subplano-convexis, interstitiis striatis, columellâ basi triplicatâ, plicis numerosis tenuibus filiformibus suprà exsculptâ, aperturâ oblongo-ovatâ, labro incrassato, varicoso; albidâ, maculis purpureo-castaneis fasciatim pictâ, interstitiis lineis fuscis tenuibus transversim notatis, aperturâ albidâ.*

THE MITRE-SHAPED VOLUTE. Shell fusiformly ovate, spire rather acuminated, whorls longitudinally lyrately ribbed, ribs obtuse, rather flatly convex, interstices striated, columella three-plaited at the base, with numerous fine thread-like plaits above, aperture oblong-ovate, lip thickened, varicose; whitish, painted with blotches of purplish chestnut, interstices marked transversely with fine brown lines, aperture whitish.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. 10. p. 404.
Voluta multicostata, Broderip.

Hab. Australia.

This species is less sharply acuminated than the *V. Delessertiana*, and the ribs are broader and about one-fourth less in number. The painting is very different, both in colour and design.

8.

9. a.

9. b.

10.

VOLUTA.

PLATE IV.

Species 8. (Mus. Cuming.)

VOLUTA RUTILA. *Vol. testâ ovatâ, utrinque attenuatâ, crassiusculâ, spirâ brevi, apice papillam amplam, obsoletè nodulosam, formante, anfractibus lævibus, superne declivibus, interdum, autem rarò, tuberculatis, columellâ subarcuatâ, quadriplicatâ, aperturâ elongato-ovatâ, labro simplici; carneo-albicante, sanguineo-rubro creberrimè confusè trigono-maculatâ et nebulatâ, et subobscurè saturatè trifasciatâ.*

THE BLOOD-RED VOLUTE. Shell ovate, attenuated at both ends, rather thick, spire short, forming a large obsoletely nodulous papilla, whorls smooth, slanting round the upper part, sometimes, but rarely, tubercled, columella slightly arched, four-plaited, aperture elongately ovate, lip simple; flesh-white, very closely confusedly triangularly blotched and clouded with blood-red, and rather obscurely deeper-coloured in three bands.

BRODERIP, Zoological Journal, vol. ii. p. 30. pl. 3.

Hab. North-east Coast of Australia; Jukes.

The painting of this species does not consist of fine hair lines and blotches of scarlet-red, as in the *V. aulica*, but of a confusedly mottled mass of deep blood-red colouring, forming numerous obscure triangular open patches, and three indistinct bands.

Species 9. (Mus. Cuming.)

VOLUTA INNEXA. *Vol. testâ oblongo-ovatâ, spirâ brevinsculâ, apice papillam subamplam nodulosam formante, anfractibus lævibus, superne declivibus, leviter angulatis, ad angulum nodoso-tuberculatis, columellâ fortiter quadriplicatâ; carneo-albâ, lineis tenuibus coccineo-fuscescentibus undique longitudinaliter subtilissimè innexâ, fasciis angustis tribus saturatioribus.*

THE KNITTED VOLUTE. Shell oblong-ovate, spire rather short, forming a rather large nodulous papilla at the apex, whorls smooth, slanting round the upper part and slightly angled, nodosely tubercled at the angle, columella strongly four-plaited; flesh-white, longitudinally very finely knitted throughout with fine scarlet-brown lines, with three narrow darker bands.

Hab. ——?

An undescribed species, of which the locality is unknown. The entire surface is covered with a remarkable fine scarlet-brown net-work, very closely arranged transversely, so that the triangular spots of white, which appear here and there, are more longitudinal than usual, whilst the three bands which are somewhat indistinctly formed by a darker deposit of the colour, are unusually narrow. The specimen having lost a portion of the lip, it is so represented in the accompanying figure.

Species 10. (Mus. Brit.)

VOLUTA PAPILLARIS. *Vol. testâ subfusiformi-ovatâ, crassâ, basi truncatâ, apice valdè papillari, anfractibus lævibus, superne declivibus, deinde tumidiusculis, columellâ rudè tri- quinqueplicatâ, callosâ, aperturâ subangustâ, labro incrassato; fulvescente-albâ, fulvo-castaneo reticulatâ et latifasciatâ.*

THE PAPILLARY VOLUTE. Shell somewhat fusiformly ovate, thick, truncated at the base, very papillary at the apex, whorls smooth, slanting round the upper part, then rather swollen, columella rudely three- to five-plaited, callous, aperture rather narrow, lip thickened; fulvous white, reticulated and broadly banded with fulvous chestnut.

SWAINSON, Appendix to Bligh Catalogue.

Voluta Sowerbyi (*pars*), Kiener.

Hab. Port Lincoln, Australia.

Mr. Swainson named this species *papillosa* with the view of drawing attention to the remarkable papillary structure of the apex, but as that word signifies "*full* of papillæ," it is better rendered *papillaris*. Taking it to refer to the painting, and confounding the species with *V. fusiformis*, M. Kiener has changed the name to do honour to Mr. Sowerby, "because the spots have so rarely the appearance of papillæ." Mr. Sowerby acknowledges the compliment, in language severe but not the less true, by calling it an absurdity. To add to this category of errors, M. Kiener gives the name *V. fusiformis* to Mr. Broderip's *V. Beckii*.

V. a.

V. b.

V. c.

V. d.

VOLUTA.

PLATE V.

Species 11. (Fig. *a*, *b*, *c*, *d*, Mus. Cuming.)

VOLUTA VESPERTILIO. *Vol. testâ ovato-oblongâ, crassiusculâ, spirâ brevi, apice subobtusâ, nodulosâ, anfractibus lævibus, superne concavo-declivibus, squamato-tuberculatis, tuberculis interdum fortibus, prominentibus, interdum, autem raro, fere obsoletis, columellâ quadriplicatâ, plicis validibus, aperturâ longiusculâ, labro medio subcontracto; albidâ, aut carneolatâ aut fulvescente tinctâ, nigricante-olivaceo, vel castaneo, vel cocceo varie reticulatâ, aperturæ fauce carneolo-albâ.*

THE BAT VOLUTE. Shell ovately oblong, rather thick, spire short, rather obtuse and nodulous at the apex, whorls smooth, concavely slanting, squamately tubercled, tubercles sometimes strong and prominent, sometimes, but rarely, partially obsolete, columella four-plaited, plaits strong, aperture rather long, lip slightly contracted in the middle; whitish, or flesh-tinged, or fulvous, variously reticulated with blackish olive or chestnut or scarlet, interior of the aperture carnelion-white.

LINNÆUS, Syst. Nat. (12th edit.) p. 1194.

Varietates.

Voluta pellis-serpentis, Lamarck.

Voluta serpentina, Lamarck.

Voluta vitis, Lamarck.

Hab. Philippine Islands, Moluccas, &c.

Four Lamarckian species are now comprehended in this, distinguished merely by slight modifications of growth and variety of painting. The shell Fig. 11 *a* represents the type of the species, *V. vespertilio* true. The growth is short and broad; and the tubercles, very strongly developed, are thrown up into hooked scales and laterally compressed. Fig. 11 *b* is the *V. serpentina* of Lamarck, of more oblong growth, less strongly tubercled, and marked with thin tortuous lines of painting, sometimes dark olive-brown, sometimes bright scarlet as in the specimen figured. Fig. 11 *c* is a characteristic figure of *V. vitis*, in which the shell obtains an oblong-cylindrical form with the tubercles partially obsolete; and Fig. 11 *d* is a representation of the *V. pellis-serpentis* in fine state. The colour is more elaborately reticulated, and has little indication of the triangular and tortuous lines which distinguish the other varieties.

Varieties may, however, be cited *ad infinitum*; Mr. Cuming has separated upwards of thirty in his cabinet.

November, 1849.

13. a

12.

14.

13. b

G.B.S. del. et lith.

B. B. & R. imp.

VOLUTA.

PLATE VI.

Species 12. (Mus. Cuming.)

VOLUTA INTERPUNCTA. *Vol. testâ ovatâ, crassâ, spirâ brevi, apice erecto, papillari, anfractibus duobus primis papillam formantibus, tertio quartoque supernè plicato-nodulosis, plicis gradatim evanidis, interstitiis transversim striatis, anfractibus cæteris lævibus, supernè tumidiusculis, interdum, autem raro, obsoletè tuberculatis, columellâ sex- ad octo-plicatâ, plicis superioribus parvis, quasi partitis, aperturâ longiusculâ, labro intus subincrassato, spiram versus decurrente; carneo-albicante, punctis lineatibus castaneis undique seriatim cinctâ, strigis purpureo-brunneis interdum longitudinaliter pictâ, basi subaurantiâ.*

THE DOTTED VOLUTE. Shell ovate, thick, spire short, apex erect, papillary, first two whorls forming the papilla, third and fourth whorl plicately noduled, the folds gradually vanishing, interstices transversely striated, rest of the whorls smooth, rather swollen round the upper part, sometimes, but rarely, obsoletely tubercled, columella six- to eight-plaited, upper plaits small, as if divided, aperture rather long, lip somewhat thickened within, running up a little towards the spire; flesh-white, encircled throughout with linear chestnut dots, sometimes longitudinally painted with purple-brown streaks, base tinged with orange.

MARTYN, Universal Conchologist, vol. iv. pl. 127.

Voluta Indica, Sowerby.

Voluta Lapponica, Linnæus, Lamarck.

Streaked variety. *Voluta undata*, Martyn.

Hab. Ceylon.

I quite agree with Mr. Sowerby in the propriety of abandoning the name *Lapponica* given to this species, indicating a country and climate in which such a mollusk could not by any possibility exist. Instead of inhabiting the arctic shores of Lapland, it is a native of the seas of tropical India. The error did not, however, originate with Linnæus. The species was known before his time to Dutch naturalists, as the '*Lapphoorn*' or '*Lapphoren*,' signifying the Flap-Ear or Dog's Ear Shell. This seems to have been then corrupted into '*Ailée Lapponne*,' '*Alata Lapponica*,' *Voluta Lapponica*, and Mouschen and Rumphius compounded the name, '*Laplandsche Lapphoorn*.' It only remains a matter of wonder, that, whilst Seba described the species as an exotic shell from India, the error should have remained so long unexplained.

Species 13. (Mus. Cuming.)

VOLUTA FULGETRUM. *Vol. testâ subfusiformi-oblongâ, tenuiculâ, spirâ exsertâ, apice papillari, anfractibus duobus vel tribus papillam amplam formantibus, cæteris minutissimè striatis, ultimo labrum versus subangulato, columellâ triplicatâ; latè vel rufescente-aurantiâ, strigis grandibus castaneis conspicuè fulguratâ, interdum eximiè reticulatâ et sparsim maculatâ.*

THE LIGHTNING-FLASH VOLUTE. Shell somewhat fusiformly oblong, rather thin, spire exserted, papillary at the apex, the first two or three whorls forming a large papilla, the rest very minutely striated, last whorl slightly angled towards the lip, columella three-plaited; yellow or reddish-orange, conspicuously lightning-marked with large chestnut streaks, sometimes delicately reticulated and here and there spotted.

BRODERIP, Zoological Journal, vol. ii. p. 35. Sowerby, Tankerville Catalogue, pl. 4 and 5.

Hab. South Australia.

This fine species was first described by Mr. Broderip from a specimen of rather large size in the celebrated Tankerville collection, now in the British Museum. Since that period, several specimens of smaller dimensions, but more richly marked, have been received from South Australia. The painting is somewhat variable, being sometimes represented by a fine net-work of delicate colouring with only a few spots. The spire commences in a large, rudely convoluted papilla, which is in no degree concealed as the shell advances in growth. Another peculiarity of the species is, that the animal distributes a copious deposit of enamel over the body-whorl, not thickened and callous, but of a thin semi-transparent substance, and of a milky aspect, by which the painting is only partially obscured.

Species 14. (Mus. Cuming.)

VOLUTA RUFESTRIS. *Vol. testâ fusiformi, basi contractâ, apice papillari, anfractibus duobus primis papillam eburneam formantibus, tertio quartoque transversim impresso-striatis, longitudinaliter subplicato-costatis, penultimo et ultimo subangulatis, costis fere evanidis, obsoletè nodosis, striis in sulcis subtilibus suntatis, præsertim versus basin, columellâ octo-plicatâ, plicis*

irregularibus; carneo-albicante, strigis undatis castaneo-rufis undique fulguratâ.

The blasted Volute. Shell fusiform, contracted at the base, papillary at the apex, the first two whorls forming an ivory-like papilla, the third and fourth transversely impressly striated, longitudinally plicately ribbed, penultimate and last whorl slightly angled, with the ribs almost fading, obsoletely noduled, striæ turned into fine grooves, especially towards the base, columella eight-plaited, plaits irregular; warm flesh-white, marked throughout with waved chestnut-red streaks.

Gmelin, Syst. Nat. p. 3464.

Voluta fulminata, Lamarck.

Fulgoraria Chinensis, Schumacher.

Hab. China.

The *V. rupestris* varies considerably in size, but little in character. Its papillary apex has a peculiar rounded polished ivory appearance. The sculpture of the shell commences with regular longitudinal compressed ribs of rather a superficial character, and transverse impressed striæ; the ribs become gradually noduled, frequently obsolete, and the striæ enlarge into the form of spiral linear grooves.

15.

16. a.

16. b.

17.

G.B.S. del. et lith.

R. B. & R. imp.

VOLUTA.

PLATE VII.

Species 15. (Mus. Cuming.)

VOLUTA NORRISII. *Vol. testâ, subquadrato-ovatâ, ventricosâ, spirâ brevi, apice obtusâ et noduloso, anfractibus lævibus, supernè concavo-angulatis, ad angulum spinoso-squamatis, columellâ subtorvatâ, quadriplicatâ; flavidâ et virescente, lineis brevibus nigricantibus in maculis olivaceo-viridibus medio bifasciatâ et supernè tinctâ, areis inter fascias olivaceo-viridi nebulatis, maculis lineisque niveis irregularibus sparsim flocculis, columellâ aurantio-carneâ, aperturæ fauce fuscescente-cinereâ.*

NORRIS's VOLUTE. Shell somewhat squarely ovate, ventricose, spire short, rather obtuse and noduled at the apex, whorls smooth, concavely angled round the upper part, spinosely squamate at the angle, columella slightly arched, four-plaited; yellowish and greenish, two-banded round the middle and stained at the upper part with short blackish lines in olive-green blotches, areas between the bands sparingly flaked with irregular snowy spots and lines, columella orange-carnelion, interior of the aperture brownish.

SOWERBY, Pro. Zool. Soc., 1844, p. 150; Thesaurus Conch. p. 201. pl. 51. f. 65.

Hab. Dupuch's Island, Australia; Dring.

This species, which is not uncommon, differs constantly from *V. nivosa*, in being of a shorter and broader growth, coronated with sharp spinose scales. It is also characterized by a more confused style of painting, of a peculiar sea-green tint of colouring. The open white flakes of *V. nivosa* are here represented by small broken opake white lines. The shell is very similar in other respects, but in all the specimens I have seen, the peculiarities above noted are well marked, and apparently of specific importance.

Species 16. (*Fig. a* and *b*, Mus. Norris.)

VOLUTA PIPERATA. *Vol. testâ oblongo-ovatâ, crassâ, spirâ brevisculâ, apice subobsoletè nodulosâ, anfractibus lævibus, supernè concavo-declivibus, ad angulum obsoletè tuberculatis, columellâ quadriplicatâ; pallidè carneo-cinerascente, punctis minutis aurantio-fuscis undique creberrimè piperatâ, strigis undulatis olivaceo-nigricantibus, subdiadantibus, longitudinaliter fulguratâ, fasciis tribus virescente-albis partim obscuratâ, columellâ, labi, et aperturæ fauce vividè aurantio-carneolis.*

THE PEPPERED VOLUTE. Shell oblong-ovate, thick, spire rather short, somewhat obsoletely noduled at the apex, whorls smooth, concavely slanting round the upper part, obsoletely tubercled at the angle, columella four-plaited; light fleshy-ash, very closely peppered throughout with minute orange-brown dots, longitudinally lightning-marked with rather distant olive-black waved streaks, the colour being partially obscured with three bands of greenish-white, columella, base, and interior of the aperture bright orange-carnelion.

SOWERBY, Pro. Zool. Soc., 1844, p. 150; Thesaurus Conch. p. 199. pl. 51. f. 62.

Hab. —— ?

The painting of this beautiful species in all its detail, is of too minute a character to be rendered in a figure. The entire surface of the shell is peppered, so to speak, with small orange-brown dots, and over this are a number of rather distant jagged olive-black streaks running in zigzag style from the sutures to the base. This being the design of the painting throughout, about one-half of it is partially obscured at intervals by three bands of greenish-white film, the pattern being seen through it.

The species is at present unique in the collection of Thomas Norris, *Esq.*, to whom I am indebted for this opportunity of figuring it of the natural size.

Species 17. (Mus. Cuming.)

VOLUTA NIVOSA. *Vol. testâ ovato-oblongâ, spirâ brevisculâ, apice subobtusâ et noduloso, anfractibus lævibus superiè declivibus, subangulatis, ad angulum plus minus obscurè compressè tuberculatis, inferiè subcontractis, columellâ quadriplicatâ; cæruleascente-plumbeâ, tuberculis et nodulis pallidis, lineis nigris irregularibus confertis è suturis ad angulum descendentibus, infrà lineis nigris irregularibus interruptis nitidè bifasciatâ, areis inter fascias maculis niveis sparsim flocculis, columellâ basique aurantio-carneolis, aperturæ fauce sordidè fuscescente-cinereâ.*

THE SNOWY VOLUTE. Shell ovately oblong, spire rather short, somewhat obtuse and noduled at the apex, whorls smooth, slanting round the upper part, slightly

angled, more or less obscurely compressly tubercled at the angle, a little contracted towards the lower part, columella four-plaited; bluish lead-colour, tubercles and nodules paler, with irregular close-set black lines descending from the sutures to the angle, beneath neatly banded with irregular interrupted black lines, areas between the bands sparingly flaked with snowy spots, base and columella orange-carnelion, interior of the aperture dull brown-ash.

Lamarck, Anim. sans vert. (Deshayes' edit.) vol. 10. p. 389.

Hab. Swan River, Coast of Australia.

This species is frequently seen of a discoloured yellowish hue, instead of the rich lead-blue tint here represented, which is its true character. The tubercles are never absent; they are of an obtuse compressed growth, and not developed into spinose scales as in the *V. Norrisii* and *corona*.

It inhabits the shores of Garden Island, mouth of the Swan River, in great abundance.

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OF THE
BOMBAY
BRANCH
OF THE

18. a.

18. b.

18. c.

18. d.

G.B.S. del. et lith.

R.B. & R. imp.

VOLUTA.

PLATE VIII.

Species 18. (Fig. *a*, *b*, *c*, *d*, Mus. Cuming, and Pl. IX. Fig. 18 *e*, Mus. Hudson.)

VOLUTA MUSICA. *Vol. testâ ovatâ, crassâ, basi peculiariter recurvâ, spirâ nunc brevinculâ, nunc exsertâ, apice subobtusâ; anfractibus lævigatis, supernè angulato-declivibus, fortiter tuberculatis, tuberculis in costis plus minus obsoletis descendentibus; albidâ aut fulvescente-carneâ, aut castaneo, aut cæruleo, aut roseo, vel aurantio tinctâ et nebulatâ, lineis fuscis conspicuè trifasciatâ, interstitiis lineis sobundatis, e suturis descendentibus, longitudinaliter notatis, areis inter fasciis creberrimè fusco-punctatis, maculis nigris subirregulariter marginatis, aperturâ carneo-aurantiâ, labro nigro-maculato.*

THE MUSIC VOLUTE. Shell ovate, thick, peculiarly recurved at the base, spire sometimes rather short, sometimes exserted, rather obtuse at the apex; whorls smooth, angularly slanting round the upper part, strongly tubercled, tubercles descending in more or less obsolete ribs; whitish or fulvous-flesh tint, stained and clouded with chestnut, or rose, or blue, or orange, conspicuously encircled with three bands of brown lines, marked longitudinally in the interstices with slightly waved lines descending from the sutures, areas between the bands very closely dotted with brown, and somewhat irregularly edged with black blotches, aperture flesh-orange, lip spotted with black.

LINNÆUS, Syst. Nat. (12th. edit.) p. 1194.

Varietates.

Voluta chlorosina, Lamarck.
Voluta thiarella, Lamarck.
Voluta carneolata, Lamarck.
Voluta lævigata, Lamarck.
Voluta sulcata, Lamarck.
Voluta nodulosa, Lamarck.
Voluta Guinaica, Lamarck.
Voluta Guineensis, Chemnitz.
Voluta plicata, Dillwyn.

Hab. West Indies.

This very beautiful and well-known shell appears to have discoursed most eloquent music to the mind of Lamarck; for under it he has comprehended eight species, indicating so many varieties of one and the same. The richly-coloured specimen of broad and solid growth and prominent tubercles, Fig. 18 *b*, *c*, may be regarded as the type of the species. *V. chlorosina*, on the authority of M. Kiener, is the same in bad condition. *V. thiarella*, characterized by its elongated growth and pale colouring, is the variety Fig. 18 *d*. *V. Guinaica*, distinguished by its rich violet and brown-clouded colouring, is represented by the variety Fig. 18 *a*. *V. carneolata*, known to collectors by its delicate pink colouring and smaller size, is figured at Pl. IX. Fig. 18 *e*. *V. sulcata* is a light fawn variety, approaching in size and appearance to the last, in which the ribs depending from the tubercles, more or less obsolete in all the varieties, are rather more prominent in this, whilst the shell is not unfrequently granulated. *V. lævigata* is founded upon a state of the species the reverse of the preceding, having little indication of ribs or tubercles; and *V. nodulosa*, according to M. Kiener, is a variety in bad condition, probably granulated.

It is almost needless to particularize varieties, excepting truly to show of what these Lamarckian species are constituted, and of which the intermediate states may be seen in the Cumingian and other collections. The same design of painting, consisting of two broad bands of blotched lines, with intermediate areas of dots, pervades the whole; and the tubercles are only the more prominently developed as the shell is less narrowly elongated in growth, arising out of a more contracted plan of convolution.

18. c.

20. a.

19.

20. b.

G. B. S. del et lith.

E. B. & E. imp.

VOLUTA.

PLATE IX.

Species 19. (Mus. Cuming.)

VOLUTA VIRESCENS. *Vol. testâ conico-ovatâ, crassiusculâ, spirâ brevi, apice subacutâ, anfractibus transversim crebrè lineari-sulcatis, superiùs concavo-angulatis, ad angulum acutè tuberculatis, tuberculis in costis gradatim evanidis descendentibus, columellâ multiplicatâ, plicis irregularibus, aperturâ angustâ, labro subreflexo; virescente, densè nigro-punctatâ, zonis numerosis æquidistantibus angustis immaculatis, nisi punctis perpaucis nigris notatis, labro nigro-maculato.*

THE GREENISH VOLUTE. Shell conically ovate, rather thick, spire short, rather sharp at the apex, whorls transversely closely linearly grooved, concavely angled round the upper part, sharply tubercled at the angle, tubercles descending into gradually vanishing ribs, columella many-plaited, plaits irregular, aperture narrow, lip slightly reflected; greenish, thickly black-dotted, with numerous equidistant narrow zones unspotted except by a few black dots of larger size, lip black-spotted.

SOLANDER, Dillwyn, Catalogue of Shells, vol. i. p. 562.

Murex musicalis viridis, Martini.

Voluta polyzonalis, Lamarck.

Voluta fulva, Lamarck.

Voluta pusio, Swainson.

Hab. West Africa.

Dr. Solander's manuscript name for this species was published in Dillwyn's 'Catalogue of Shells' during the progress of Lamarck's 'Animaux sans Vertèbres' two or three years before the appearance of genus *Voluta*, and therefore has priority. Mr. Swainson's *Voluta pusio*, which may be seen in the British Museum, is merely a worn, discoloured specimen of *V. virescens*, so far as it is possible to judge by its similarity of form and the faint traces of marking that remain. Mr. Sowerby has published a figure of it in his 'Thesaurus Conchyliorum,' but the colouring is rather exaggerated. The specimen is in a condition in which no shell ought to be described, unless presenting some new typical peculiarity of form.

Species 20. (Fig. *a*, Mus. Gubba; Fig. *b*, Mus. Cuming.)

VOLUTA HEBRÆA. *Vol. testâ ovatâ vel oblongo-ovatâ, crassâ, ponderosâ, spirâ interdùm brevi, interdùm exsertâ, apice subpapillari, anfractibus lævibus aut transversim obscurè liratis, superiùs gibboso-angulatis, plerumque fortiter tuberculatis, columellâ fortiter quinqueplicatâ, superiùs plicis parvis haud numerosis aut obsoletis; pallidè fuscescente-carneâ, lineis irregularibus vermiformibus transversis et e suturis descendentibus, maculisque hieroglyphicis, intensè nigro-castaneis, variè fasciatim pictâ, interdùm, antem varò, aurantio-rufo bifasciatâ, labro nigro-maculato.*

THE HEBREW VOLUTE. Shell ovate or oblong-ovate, thick, ponderous, spire sometimes short, sometimes exserted, apex somewhat papillary, whorls smooth or transversely obscurely ridged, gibbously angled round the upper part, generally strongly tubercled, columella strongly five-plaited with small plaits above, either numerous or obsolete; light brownish flesh-colour, variously painted in a banded style with irregular vein-like lines, transverse, also descending from the sutures, and hieroglyphic blotches, of very dark chestnut, sometimes but rarely encircled by two bands of orange-red, lip spotted with black.

LINNÆUS, Syst. Nat. (12th. edit.) p. 1194.

Buccinum coronatum, Martyn.

Pale red variety. *Voluta turbinata*, Kiener.

Hab. West Africa.

This fine species varies considerably, with the spire sometimes short, sometimes exserted, in which latter case the tubercles are so much the less prominently developed. It is the 'False Music Shell' of the old conchologists; the *Buccinum musicum spurium* of Seba, *Murex musicalis spurius* of Martini, *Thema musicum Hebraicum* of Klein, and the *Wilde Musyk-hoorn* of the Dutch. None of the varieties have the bands of lines or dots of the true *V. musica*.

Fig. 10 *c*. (Mus. Hudson.)

The red variety of *V. musica*, referred to in the preceding plate as being Lamarck's *Voluta carneolata*.

21.

22. *a*.

22. *b*.

23.

G.B.S. del. et lith.

R.B. & R. imp.

VOLUTA.

PLATE X.

Species 21. (Mus. Cuming.)

VOLUTA SOPHIA. *Vol. testâ subquadrato-ovatâ, basin versus contractâ, spirâ brevi, apice obtusâ et nodulosâ, anfractibus lævibus, superne concavo-angulatis, ad angulum acutè spinoso-squamatis, columellâ quadriplicatâ, aperturâ subdilatatâ; fulvescente-albâ, maculis perpaucis parvis castaneo-rufis seriatim tinctâ.*

THE SOPHIA VOLUTE. Shell somewhat squarely ovate, contracted towards the base, spire short, obtuse and nodulose at the apex, whorls smooth, concavely angled round the upper part, sharply squamately spined at the angle, columella four-plaited, aperture somewhat dilated; light fulvous white, stained with rows of chestnut-red spots.

GRAY, Narrative of the Voyage of the Fly?

Hab. North Coast of Australia; Jukes.

Closely allied in form to *V. Norrisii*, it differs in being encircled with four rows of distant chestnut-red spots, of which there is no trace in that species.

Species 22. (Mus. Crotch.)

VOLUTA EXOPTANDA. *Vol. testâ cylindraceo-oblongâ, sub-Oliveæformi, spirâ brevi, conicâ, apice papillari, anfractibus lævibus, superne declivibus, deinde tumidiusculis et gradatim attenuatis, columellâ fortiter quadriplicatâ, aperturâ subangustâ, labro parum incrassato; pallidè rosco-aurantiâ, indistinctè bifasciatâ, lineis subtilibus acutè undulatis castaneo-rufis undique densè promiscuè pictâ, columellâ et aperturæ fauce vividè aurantio-carneolis.*

THE MUCH-DESIRED VOLUTE. Shell cylindrically oblong, somewhat Olive-shaped, spire short, conical, obtusely papillary at the apex, whorls smooth, slanting round the upper part, then rather swollen, and gradually attenuated; columella strongly four-plaited, aperture rather narrow, lip but little thickened; pale rose-orange, faintly two-banded, densely promiscuously painted throughout with sharply waved fine chestnut red lines, columella and interior of the aperture rich orange-carnelion.

SOWERBY, MS.

Hab. Port Lincoln, South Australia.

This very beautiful new Volute, from the collection of the Rev. W. R. Crotch, remarkably distinct from any species hitherto known, may be regarded as the type of a new section of the genus, partaking of the Cone and Olive form. It is of a delicate orange-roseate hue, crowded throughout with fine sharply zigzag chestnut-red marks, exhibiting two faint bands. The body-whorl is covered with an extremely thin deposit of enamel of a milky hue, by which the painting is only very slightly obscured, whilst the columella and interior of the aperture are of a rich orange-red carnelion. Near the lip the painting suddenly assumes a more exact style of pattern, disposed in triangular reticulations of a darker blueish tint, as if the pencil, so to speak, of the animal had been labouring up to this time in a disturbed condition. It is the only specimen that has been yet seen.

Species 23. (Mus. Crotch.)

VOLUTA FERUSSACI. *Vol. testâ ovatâ, ventricosâ, basi subtruncatâ, spirâ brevi, suturis rudibus, apice papillari, anfractibus lævibus, vel liris incrementi rugatis, superne rotundatis, columellâ subdepressâ, quadriplicatâ, plicâ anticâ validâ, posticâ subobsoletâ, aperturâ patulâ; sordidè spadicco-fuscescente.*

FERUSSAC'S VOLUTE. Shell ovate, rather ventricose, somewhat truncated at the base, spire short, sutures rude, apex papillary, whorls smooth, or roughened with ridges of growth, rounded at the upper part, columella rather depressed, four-plaited, front plait strong, hind plait nearly obsolete, aperture wide open; dull bay brown.

DONOVAN, Naturalist's Repository, vol. ii. pl. 67.

Voluta rudis, Gray.

Hab. ——?

An extremely rare species, described and figured some five and twenty years since by Mr. Donovan, from a polished specimen, which he states to have been treasured for a long while previous in a private cabinet. It was supposed to have been received from the Strait of Magalhaens. The specimen here figured is from the collection of the Rev. W. R. Crotch, and there are two or three in the British Museum, of which the locality is equally unknown.

25. a.

24.

25. b.

26.

G.B.S. del et lith.

R. B. & R. imp.

VOLUTA.

PLATE XI.

Species 24. (Mus. Cuming.)

VOLUTA VOLVA. *Vol. testâ elongato-ovatâ, utrinque attenuatâ, spirâ acuminatâ, papillari, apice subcutâ, anfractibus lævibus, nitentibus, convexis, supernè declivibus, columellâ obliquè quadriplicatâ, aperturâ subangustâ, labro vix incrassato; livido-fulvescente-albâ, fusco-cruce obscurè bifasciatâ, lineis subtilibus undulatis indistinctè longitudinaliter notatâ, spiræ sutoris castaneo-fusco partim tinctis et punctatis.*

THE SHUTTLE VOLUTE. Shell elongately ovate, attenuated at each end, spire acuminated, papillary, rather sharp at the apex, whorls smooth, shining, convex, slanting round the upper part, columella obliquely four-plaited, aperture rather narrow, lip but slightly thickened; livid fulvous white, encircled with two obscure light-brown bands, and indistinctly longitudinally marked with fine waved lines, sutures of the spire partially stained and dotted with chestnut-brown.

CHEMNITZ, Conch. Cab. vol. x. p. 143. pl. 148. f. 1389-90. *Voluta pallida*, Gray.

Hab. Mouth of the Swan River, Australia.

I cannot doubt of this being the *Voluta volva*, confounded by Lamarck with the *Voluta flavicans* under the name *V. volvacea*. The *V. Turneri* of Mr. Gray, represented by Mr. Sowerby as a variety of this species, is certainly distinct, and the shell figured by Mr. Sowerby (Thes. Conch. pl. 53. fig. 94) as another variety, is the type of my *V. reticulata*. The very delicate waved lines of colour which characterize the *V. volva* are more frequently absent or obliterated than present, and are rarely more distinctly marked than in the accompanying figure.

Species 25. (Mus. Dennison.)

VOLUTA RETICULATA. *Vol. testâ elongato-ovatâ, spirâ subacuminatâ, papillari, apice acutiusculâ, anfractibus lævibus, convexis, supernè declivibus, columellâ quadriplicatâ; fulvescente-albâ, fulvo-castaneo ad suturas tinctâ et saturatè strigatâ, et undique subtiliter trigono-reticulatâ, reticuli ad basin et in fasciis duabus saturatè confusâ, columellâ et aperturæ fauce fulvo-castaneis.*

THE RETICULATED VOLUTE. Shell elongately ovate, spire somewhat acuminated, papillary, rather sharp at the apex, whorls smooth, convex, slanting round the upper part, columella four-plaited; fulvous white, stained and darkly streaked at the sutures, and finely triangularly reticulated throughout with fulvous chestnut, the net-work being darker and confused at the base and in two bands, columella and interior of the aperture fulvous chestnut.

REEVE, Pro. Zool. Soc. 1843, p. 144.

Hab. North of Swan River Settlement, Australia; Dring.

This fine shell, from the collection of Mr. Dennison, is the true type of the species under consideration, described by me on its arrival in the Beagle in 1843. Another specimen, equal in size and not much inferior in colour, is in the collection of Mr. Norris, and a third, of smaller size but richly coloured, in the Cumingian collection, figured imdvertently by Mr. Sowerby as a variety of the preceding species. Besides these, there are three specimens of a very distinct variety, if not specifically distinct, in the collections of Mr. Metcalfe, Mr. Gubba, and the British Museum, in which the shell is more ventricose and the net-work of rather a different character, figured by Mr. Sowerby (Thes. Conch. pl. 49. f. 47, 48) as *V. reticulata* true. The dark marks along the sutures are also somewhat different. The specimens are very much worn, but they present a peculiarity of character which may prove to be of some specific importance.

Species 26. (Mus. Cuming.)

VOLUTA UNDULATA. *Vol. testâ elongato-ovatâ, crassâ, basi subcontortâ, spirâ brevisculâ, subacuminatâ, anfractibus lævibus, supernè declivibus, deinde tumidiusculis, columellâ quadriplicatâ; ferrugineo-albidâ vel eburneâ, lineis castaneis flexuosis conspicuè longitudinaliter pictâ, columellâ et aperturæ fauce vividè rufo-aurantiis.*

THE WAVED VOLUTE. Shell elongately ovate, thick, slightly twisted at the base, spire rather short, somewhat acuminated, whorls smooth, slanting round the upper part, then a little swollen, columella four-plaited; rusty or ivory white, conspicuously longitudinally painted with flexuous chestnut lines, columella and interior of the aperture bright red-orange.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 401.

Hab. Tasmania, and Gipp's Land, South Australia.

This well-known species varies from a polished-ivory white to a rusty red-brown, but is always characterized by the same design of longitudinal waved lines.

27 a.

27 b.

28 a.

28 b.

28 c.

29 a.

29 b.

G. B. S. del et lith.

R. B. & R. imp.

VOLUTA.

PLATE XII.

Species 27. (Mus. Cuming.)

VOLUTA TURNERI. *Vol. testâ oblongo-ovatâ, basi subtruncatâ, spirâ brevisculâ, apice papillari, vix acuminatâ, anfractibus lævibus, superne declivibus, deinde tumidiusculis, columellâ quadriplicatâ; albâ, lineis obliquis vulgaribusque castaneis conspicuè pictâ, maculis saturatioribus ad suturas, maculis pallidioribus usquoribus bifasciatâ.*

TURNER'S VOLUTE. Shell oblong-ovate, somewhat truncated, spire rather short, apex papillary and slightly acuminated, whorls smooth, slanting round the upper part, then rather swollen, columella four-plaited; white, conspicuously painted with slightly flexuous oblique chestnut lines, with darker spots at the sutures, and encircled by two bands of faint spots of larger size.

GRAY, Griffith's Cuvier's Animal Kingdom, Moll. Pl. 40. f. 1.

Hab. South Australia.

The oblique strong linear painting which characterizes this species must not be confounded with the faint longitudinal waved lines which are sometimes present in the *V. volva* (*V. pallida*, Gray, of which Mr. Sowerby considers this a variety). The bands are formed of two rows of faint under-colour in blotches, not of riband-like painting, and the shell is uniformly of smaller size.

Species 28. (Fig. *a*. Mus. Crotch; Fig. *b, c*. Mus. Dennison.)

VOLUTA FESTIVA. *Vol. testâ ovato-fusiformi, tenuiculâ, ætate crassiore, spirâ exsertâ, pyramidali, apice rudè globoso-papillari, anfractibus lævibus, basi striatis, superne angulatis, longitudinaliter costatis, costis tumidiusculis, equidistantibus, juxta suturas obsoletis, ad angulum compressè tuberculatis, columellâ prope basin rudè triplicatâ, quarum plicâ medianâ majore, plicis numerous tenuibus filiformibus, partim obsoletis, suprà, aperturâ oblongâ, labro subincrassato; carneo-albicante, coccineo-rufo vividè latifasciatâ, fasciis hic illic interruptis, ætate gradatim evanidis, areis inter fasciis lineis brevibus guttisque fuscis irregulariter notatis, columellâ aurantiâ, basi et parte superiori in adultâ intensè castaneo-nigris, aperturæ fauce aurantio tinctâ.*

THE HANDSOME VOLUTE. Shell ovately fusiform, rather thin, increasing thicker with age, spire exserted, pyramidal, rudely globosely papillary at the apex, whorls smooth, striated at the base, angled round the upper part, longitudinally ribbed, ribs rather swollen, equidistant, obsolete next the sutures, compressly tubercled on the angle, columella rudely three-plaited near the base, of which the middle plait is the largest, with numerous fine thread-like plaits above, which are partially obsolete, aperture oblong, lip rather thickened; flesh-white, broadly banded with bright scarlet-red, bands here and there interrupted, gradually vanishing with age, areas between the bands irregularly marked with short brown lines and blotches, columella orange, base and upper part stained in the adult with deep chestnut-black, interior of the aperture tinged with orange.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 404.

Hab. Africa (East Coast?)

This beautiful species has only been known hitherto by a worn imperfect specimen in the Museum of the Jardin des Plantes, Paris. Lamarck, noting its specific peculiarities, undertook to describe it, about the year 1820, as new, observing that it "approaches *V. Magellanica*, but is very distinct and more ornamented." It will be seen from this observation, that Lamarck had little notion of the noble growth and bright scarlet colouring of the species, now exhibited in these magnificent specimens from the collections of the Rev. W. R. Crotch and Mr. Dennison; by which it is illustrated in its perfection and in different stages of growth. It will be observed totally to differ from *V. Magellanica*, and cannot be admitted into the same section of the genus. Its true place is with the *V. musica* and *Hebræa*. Mr. Dennison's richly painted specimen, of which the brightness of the colour is not in the least degree exaggerated in our figure, is of rather light structure, the spire forming an even pyramid of angular ribs. Before me is another specimen from the same collection more advanced in age, in which the colouring is of a paler scarlet hue, and commences to be broken up in large interrupted patches; and in the fine adult specimen from Mr. Crotch's collection, the scarlet painting is only partially distributed, the brown fragments of lines remaining here and there, whilst a rich dark chestnut-black layer of enamel is deposited at maturity about the base and upper extremity of the columella. The columellar plaits consist of three very prominent ones at the base, of

which the middle is the largest, and there are several fine thread-like plaits above, as in the *V. musica* and its congeners, which are more or less obsolete.

Concerning the locality of this species Mr. Dennison writes me:—"I met with these shells in Liverpool, and from inquiries made at the time, my impression is that they were from some part of the Eastern Coast of Africa." Mr. Crotch, in part confirming this opinion, writes:—"All that I can say of the locality of *Voluta festiva*, is, that it was brought to Liverpool by the captain of a ship from the coast of Africa, but whether east or west I know not."

M. D'Orbigny, confounding the *V. Magellanica* with this species, owing, probably, to Lamarck's erroneous comparison, says, "It is evident that the *Voluta festiva* was only known to Lamarck in a very young state, in which it is slightly ribbed and tubercled, but as the shell increases it loses the tubercles and becomes almost smooth. It inhabits the entire coast of Patagonia, from Bahia Blanca to the strait of Magalhaens. We have collected it to the south of the Rio Negro, and in all the tents of the Patagonians encamped on the Rio Santa Cruz we observed this shell in use as a drinking cup."

These interesting observations of M. D'Orbigny refer without doubt to the *Voluta Magellanica*. The *Voluta festiva* is a species from some part of Africa, of which only a few specimens have yet been seen, and in which the tubercles are more prominently developed as the shell advances in growth.

Species 29. (Mus. Cuming.)

VOLUTA PRÆTEXTA. *Vol. testâ subelongato-ovatâ, lasi truncatâ, spirâ breviusculâ, apice papillari, subacuminatâ, anfractibus supernè declivibus, deinde plano-convexis, columellâ triplicatâ, aperturâ subeffusâ, labro vix incrassato; albidâ, fulvescente-fusco undique nitidè subtiliter reticulatâ, anfractuum margine saturali intensè castaneo maculatâ, maculis flexuosis linearibus distantibus bifasciatâ, aperturæ fauce castaneo tinctâ.*

THE LACE VOLUTE. Shell somewhat elongately ovate, truncated at the base, spire rather short, papillary and slightly acuminated at the apex, whorls slanting round the upper part, then flatly convex, columella three-plaited, aperture slightly effused, lip scarcely thickened; whitish, neatly finely reticulated throughout, sutural edge of the whorls spotted with very dark chestnut, and encircled with two bands of distant flexuous linear spots, interior of the aperture tinged with chestnut.

Hab. North Coast of Australia; Jukes.

This little species belongs to that section of the genus comprising *V. volva*, *Turneri*, and *reticulata*, from which I have no hesitation in pronouncing it to be distinct. The net-work is not the net-work of *reticulata*, it is from a different loom, and the bands, composed of a few very characteristic flexuous streaks, have no affinity of design with those of the congeneric species, all of which are eminently distinct from each other though modelled on the same specific type.

30

31 a

31 b

32

G.B.S. del. et lith.

R. B. & R. imp.

VOLUTA.

PLATE XIII.

Species 30. (Mus. Cuming.)

VOLUTA MACULATA. *Vol. testâ subpyriformi-oblongâ, crassiusculâ, spirâ brevi, apice papillari et obtusâ, anfractibus lævibus, politis, superne declivibus, deinde tumidis, columellâ quadriplicatâ, aperturâ elongatâ, labro vix incrassato; vividè aurantio-luteâ, lineis irregularibus castaneis, cæruleo nebulatis, fasciatâ.*

THE SPOTTED VOLUTE. Shell somewhat pyriformly oblong, rather thick, spire short, obtuse and papillary at the apex, whorls smooth, polished, slanting round the upper part, then swollen, columella four-plaited, aperture elongated, lip scarcely thickened; bright orange-yellow, banded with irregular blue-clouded chestnut lines.

SWAINSON, Exotic Conchology, p. 23. pl. 38.

Hab. Australia.

A delicate bright orange-yellow shell, of rather solid growth, banded with chestnut lines, clouded behind with blue, the lines not being parallel to each other, but straggling and at irregular intervals. Another specimen in the British Museum is of rather larger size, but less distinctly marked, than that here represented from Mr. Cuming's collection.

Species 31. (Mus. White.)

VOLUTA MARMORATA. *Vol. testâ oblongâ, tenuiculâ, ventricosâ, basin versus gradatim attenuatâ, spirâ brevi, acuminatâ, apice subpapillari, anfractibus lævibus, superne concavo-angulatis, ad angulum subtiliter acutè tuberculatis, deinde inflatis, columellâ fortiter quadriplicatis, aperturâ elongatâ, labro subincrassato, effuso; fulvescente-aurantiâ, lineis subtilibus castaneis, latè undulatis, hic illic e suturis descendentibus, in fasciis duabus concinnè cæruleo-nebulatis, columellâ et aperturæ fauce aurantio-carneolis.*

THE MARBLED VOLUTE. Shell oblong, rather thin, ventricose, gradually attenuated towards the base, spire short, somewhat papillary at the apex, whorls smooth, concavely angled round the upper part, finely sharply tubercled at the angle, then inflated, columella strongly four-plaited, aperture elongate, lip slightly thickened, effused; fulvous orange, with fine broadly waved chestnut lines descending here and there from the sutures, and prettily blue-clouded in two bands, columella and interior of the aperture orange-carnelion.

SWAINSON, Exotic Conchology, Pl. 1.

Hab. Australia.

It was with this delicate and prettily marked species, that Swainson, a great admirer of the Volutes, commenced his 'Exotic Conchology.' Though differing materially from the preceding species in form, by its light inflated structure, it partakes somewhat of the colour and design of painting, the ground tint being of a fulvous orange hue, while the bands are formed by a similar blue-clouded shading of the markings. The specimen here figured from the collection of Henry Hopley White, Esq., is about the ordinary size of the species, which varies considerably in this respect, as may be seen by one in the British Museum of nearly twice the dimensions.

Species 32. (Mus. Cuming.)

VOLUTA VEXILLUM. *Vol. testâ oblongo-ovatâ, crassâ, spirâ breviusculâ, acuminatâ, apice erectâ, papillari, anfractibus lævibus, superne angulatis, ad angulum acutè compressè tuberculatis, columellâ fortiter quadriplicatâ, plicis perpaucis pareis irregularibus supra, aperturâ semiovali, labro acuto, effuso; rosaceo-albâ, tæniis angustis, vividè aurantiis, prope labrum divisis, undique cingulatâ.*

THE FLAG VOLUTE. Shell oblong-ovate, thick, spire rather short, acuminated, erect and papillary at the apex, whorls smooth, angled round the upper part, sharply compressly tubercled at the angle, columella strongly four-plaited, with a very few small irregular plaits above, aperture semioval, lip sharp, effused; pinkish-white, encircled throughout with narrow ribands of bright orange which become divided near the lip.

CHEMNITZ, Conch. Cab. vol. x. p. 152.

Hab. Ceylon.

This eminent shell, the 'Pavillon d'Orange' and 'Orange Flag' of early writers, is still of rare occurrence, and unapproached by any other species of the genus. It is worthy of observation that the bright orange ribands of painting which characterize it, mostly become divided, on reaching maturity, into two shreds.

33. *b.*

33. *a.*

VOLUTA.

PLATE XIV.

Species 33. (Fig. *a* and *b*, Mus. Cuming.)

VOLUTA MAGELLANICA. *Vol. testâ ovato-oblongâ, ventricosâ, nunc tenuiculâ, lævigatâ, nunc crassiusculâ, obscurè nodoso-tuberculatâ, spirâ brevi, acuminatâ, apice papillari, anfractibus superne obtusè angulatis, deinde subinflatis, columellâ quadriplicatâ, subcallosâ, aperturâ patulâ, labro vix incrassato; fuscescente-albâ, lineis castaneis undatis, e suturis promiscuè descendentibus, interdum fasciatim nebulatis, profusè pictâ, columellâ labroque subaurantiis.*

THE MAGELLANIC VOLUTE. Shell ovately oblong, ventricose, sometimes rather thin, sometimes obscurely nodosely tubercled, spire short, acuminated, papillary at the apex, whorls obtusely angled round the upper part, then rather inflated, columella four-plaited, rather callous, aperture wide open, lip but slightly thickened; brownish white, profusely painted with waved chestnut lines, descending promiscuously from the sutures, sometimes clouded into bands, lip and columella tinged with orange.

CHEMNITZ, Conch. Cab. vol. x. p. 139. pl. 148. f. 1313-4.

Varieties.

Voluta submodosa, Leach.

Voluta tuberculata, Swainson.

Voluta festiva, D'Orbigny (not of Lamarck).

Hab. Coast of Patagonia; D'Orbigny. Tierra del Fuego; Cuming.

In speaking of this species, it will be well to notice in the first instance that I follow Lamarck, D'Orbigny, and Deshayes in ascribing the broad shell under consideration, distinguished by its four- or five-plaited columella, ventricose growth, and short acuminated spire, to the *Voluta Magellanica* of Chemnitz; while the elongated shell with a sharp exserted spire and only two to three columellar plaits, referred to it by Kiener and Sowerby, is regarded by me, after the same authorities, as the *Voluta ancilla* of Solander in the Portland Catalogue.

The *Voluta Magellanica* is found abundantly on the coast of Patagonia from the Bay of San Antonio to the Straits of Magalhaens and Tierra del Fuego, and was observed by M. D'Orbigny to be in use among the natives as a drinking cup. As in most Volutes, the shell is not unfrequently tubercled, sometimes the first few whorls only are noduled, sometimes the nodular tubercle-like growth extends to the last whorl, in which state it is the *V. submodosa* of Leach, then *tuberculata* of Swainson. In all conditions the painting consists of a promiscuous assemblage of undulated chestnut lines, waved with little regard to pattern or regularity, and occasionally clouded to about the middle, indicating a band. The shell taken by M. D'Orbigny for Lamarck's *Voluta festiva* is evidently a variety of this; the author of the 'Voyage dans l'Amérique Méridionale' having attached an importance to Lamarck's observations on that species, which does not belong to them.

November, 1849.

VOLUTA.

PLATE XV.

Species 34. (Mus. Cuming.)

VOLUTA BRASILIANA. *Vol. testâ subglobosо-ovatâ, ventricosâ, spirâ brevissimâ, apice vix papillari, anfractibus lineis incrementi rudè notatis, supernè gibboso-angulatis, ad angulum nodoso-tuberculatis, columellâ bi-plicatâ, aperturâ patulâ; intus extusque fulvescente, immaculatâ.*

THE BRAZILIAN VOLUTE. Shell somewhat globosely ovate, ventricose, spire very short, apex scarcely papillary, whorls rudely marked with the lines of growth, gibbously angled round the upper part, nodosely tubercled at the angle, columella two-plaited, aperture wide open; light fulvous within and without.

SOLANDER, Catalogue of the Portland Museum, p. 186. no. 3958.

Voluta colocynthis, Chemnitz.

Hab. Coast of Buenos Ayres; D'Orbigny.

This species was first made known by Favanne under the title of 'Le Coloquinte,' or 'Wild Gourd;' but before a Latin significance was given to this by Chemnitz, in the name *Voluta colocynthis*, it was published by Dr. Solander in the Catalogue of the Portland Museum with the name *Voluta Brasiliana*, descriptive of its locality.

It is somewhat doubtful whether the species exists of so large a size in the present day as here represented. The specimen figured was found by Mr. Cuming at Buenos Ayres, buried with others in a bank composed of loose earth and worn shells, at a distance of about fifty miles from the sea. M. D'Orbigny relates having seen it in abundance, dead, upon the sandy points of the coast, from the mouth of the Rio de la Plata to Patagonia, where it is particularly common about the mouth of the Rio Negro, but much smaller; one he collected alive, and has figured, with the animal, in his magnificent work 'Voyage dans l'Amérique Méridionale,' Moll. Pl. 60. f. 4–6.

Species 35. (Mus. Rucker.)

VOLUTA ANGULATA. *Vol. testâ plano-fusiformi, subtrigonâ, spirâ brevi, acuminatâ, apice acutiusculâ, anfractibus lævibus, supernè depresso-angulatis, columellâ ampliter triplicatâ, aperturâ patulâ, labro simplici; fulvescente-spadiceâ, lineis castaneis sæpe raris, distantibus, e sutura promiscuè descendentibus.*

THE ANGLED VOLUTE. Shell flatly fusiform, somewhat triangular, spire short, acuminated, rather sharp at the apex, whorls smooth, depressly angled round the upper part, columella largely three-plaited, aperture wide open, lip simple; light fulvous bay, with waved chestnut lines, often few and distant, descending promiscuously from the sutures.

SWAINSON, Exotic Conchology, Pl. 3 and 4.

Voluta Defrensii, Donovan.

Voluta nasica, Shubert and Wagner.

Volutella angulata, D'Orbigny.

Hab. Buenos Ayres and Patagonia; D'Orbigny.

This species is chiefly remarkable from the circumstance, that the animal, which is beautifully spotted all over like a leopard, has a lobe extending from the mantle on the left side over the shell, after the manner of a Cowry. It does not, however, secrete a vitrified enamel, but a milky glazed coating, like *Cymbium*, through which the zigzag marking is mostly visible. In a specimen before me from Mr. Dennison's collection, the shell is entirely covered with this glazed coating, flowing beyond the apex even, and the marking is obliterated, whilst the columella and interior of the aperture is of a rich carnelion colour.

M. D'Orbigny observed this species to inhabit the coast of South America from the mouth of the Rio de la Plata, north of Buenos Ayres, to the Bay of San Blas in Patagonia, where it lives buried in the sand. Having captured a specimen that was advancing from its hiding-place into the water, he kept it alive for several days in a glass vessel, during which time it walked about enveloped by the lobe of its mantle.

36.

37.

VOLUTA.

PLATE XVI.

Species 36. (Mus. Rucker.)

VOLUTA IMPERIALIS *Vol. testâ oblongo-turbinatâ, crassissimâ, ponderosâ, spirâ brevi, apice obtusè papillari, anfractibus supernè conceso-angulatis, spinis grandibus erectis squamatis ad angulum coronatis, columellâ quadriplicatâ, aperturâ subamplâ, labro vix incrassato; fulvescente-spadicea, maculis lineisque castaneis undatis et angulatis, hic illic fasciatim dispositis, ornatâ, columellâ et aperturæ fauce aurantio-carneolis.*

THE IMPERIAL VOLUTE. Shell oblong-turbinated, very thick, ponderous, spire short, obtusely papillary at the apex, whorls concavely angled round the upper part, crowned with large erect squamate spines at the angle, columella four-plaited, aperture rather large, lip scarcely thickened; pale fulvous bay, ornamented with waved and zigzag chestnut spots and lines, disposed here and there in bands, columella and interior of the aperture orange-carnelion.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 385. *Hab.* Philippine Islands; Cuming.

This noble species was originally named *Murex Spenglerianus* by Martini, in honour of an eminent amateur of the last century, and it would have been well, notwithstanding the irregular nomenclature of the 'Conchylien Cabinet,' had Lamarck adopted that name. It was called the 'Grand Foudre Chinois de M. Spengler,' also the 'Chinese Emperor's Crown,' *Corona Imperatoris Chinensium*, and 'Die Mogolskrone,' 'The great Mogul's Crown.' It presents little variation of growth and is always more or less prominently coronated.

Species 37. (Mus. Cuming.)

VOLUTA SCAPHA. *Vol. subquadrato-turbinatâ, crassissimâ, ponderosâ, spirâ brevissimâ, apice obtusè papillari, anfractibus lævibus, superne declivibus, deinde gibbeso-angulatis, ad angulum interdum autem variosim tuberculatis, columellâ fortiter quadriplicatâ, callosâ, præcipuè ad partem superiorem, aperturâ subamplâ, labro simplici, supra subaltâ; fulvescente-spadicea, maculis nebulatis lineisque angulato-flexuosis castaneis variè pictâ, columellâ cærulescente-albâ, aperturæ fauce cinereo-fuscescente tincta.*

THE SKIFF VOLUTE. Shell somewhat squarely ovate, very thick, ponderous, spire very short, obtusely papillary at the apex, whorls smooth, slanting round the upper part, then gibbously angled, sometimes, but very rarely, tubercled at the angle, columella strongly four-plaited, callous, especially at the upper part, aperture rather large, lip simple, slightly winged above; light fulvous bay, variously painted with angularly flexuous lines and clouded blotches, columella bluish white, interior of the aperture tinged with ash-brown.

GMELIN, Syst. Nat. p. 3468.

Variety. *Voluta fasciata*, Schübert and Wagner.

Hab. Singapore (on the reefs); Cuming.

There is little variation of growth in this well-known species, and the painting, though more or less disposed in lines or blotches, is much of the same character. It has been long known as the 'Skiff' or 'Boat Volute', *Cymbium Capitis Bonæ Spei* of Martini, and *Gondole mamillaire* of Davila.

38. a.

38. b.

39.

40. a.

40. b.

G.B.S. del et lith.

B. B. & R. imp.

VOLUTA.

PLATE XVII.

Species 38. (Fig. 38 *a*, Mus. Saul. Fig. 38 *b*, Mus. Cuming.)

VOLUTA PACIFICA. *Vol. testâ oblongo-fusiformi, subventricosâ, spirâ plus minusve exsertâ, apice vix papillari, anfractibus lævibus, superne tuberculatis, tuberculis nunc prominentibus, nunc ferè obsoletis, columellâ quatuor- ad quinqueplicatâ, lamina expansa sæpe efformante, aperturâ oblongâ, labro subreflexo; carneo-fuscescente, vasculis castaneis hieroglyphicis trifasciatâ, interstitiis strigis undatis pallidioribus promiscuè pictis, aperturæ fauce aurantio-carneolatâ.*

THE PACIFIC VOLUTE. Shell oblong-fusiform, rather ventricose, spire more or less exserted, scarcely papillary at the apex, whorls smooth, tubercled round the upper part, tubercles sometimes rather prominent, sometimes almost obsolete, columella four- to five-plaited, often forming an expanded lamina, aperture oblong, lip slightly reflected; light flesh-brown, encircled with three bands of chestnut hieroglyphic spots, the interstices being promiscuously painted with waved streaks of lighter brown, interior bright flesh-orange.

SOLANDER, Cat. Portland Museum, p. 120. no. 4039.
Buccinum Arelicum, Martyn.
Voluta Arabica, Gmelin.
Variety. *Voluta elongata*, Swainson.
Hab. Van Diemen's Land. New Zealand.

The light ventricose variety of this species, constituting the *V. elongata* of Swainson, is of much more common occurrence than that which is strongly tubercled. The latter variety, always more richly marked, was distinguished by Favanne with the name of '*La robe Turque*.' Most specimens have a thin lamina expanded over the columella.

Species 39. (Mus. Cuming.)

VOLUTA ANCILLA. *Vol. testâ elongato-oblongâ, subfusiformi, tenuiculâ, spirâ exsertâ, apice peculiariter contortâ, parùm papillari, anfractibus convexis, lævisculis, columellâ bi- tri-plicatâ, aperturâ subangustâ, labro simplici; fulvescente, strigis fuscis, longitudinaliter undulatis, hic illic pictâ.*

THE CAPTIVE VOLUTE. Shell elongately oblong, somewhat fusiform, rather thin, spire exserted, peculiarly twisted and but little papillary at the apex, whorls convex, rather smooth, columella two- three-plaited, aperture rather narrow, lip simple; pale fulvous, painted here and there with longitudinally waved brown streaks.

SOLANDER, Portland Catalogue, no. 1873; Lamarck, Anim. sans vert. (Deshayes' edit.) vol. x. p. 398.
Voluta spectabilis, Gmelin.
Voluta Magellanica, Sowerby (not of Chemnitz)?
Hab. Bay of Good Success; Tierra del Fuego; Cuming. Coast of Patagonia; D'Orbigny.

This species inhabits the coasts of Patagonia and Fuegia with the *V. Magellanica*, from which it may be readily distinguished by its more sharply elongated growth and twisted apex.

Species 40. (Mus. Cuming.)

VOLUTA GRACILIS. *Vol. testâ oblongo-fusiformi, spirâ exsertâ, apice papillari, anfractibus lævibus, superne declivibus, deinde tumido-costatis, costis gradatim evanidis, columellâ quadriplicatâ, aperturâ oblongâ, labro subincrassato; fulvescente, lineis castaneis undatis longitudinaliter pictâ, lineis trifasciatim saturatioribus.*

THE SLENDER VOLUTE. Shell oblong-fusiform, spire exserted, papillary at the apex, whorls smooth, slanting round the upper part, then ribbed in a swollen manner, ribs gradually fading, columella four-plaited, aperture oblong, lip rather thickened; pale fulvous colour, painted longitudinally with waved chestnut lines.

SWAINSON, Journal of Science, vol. xvii. p. 32.
Hab. Australia.

By exhibiting this species and the *V. Pacifica* in juxtaposition, each of the natural size, their distinctive character may be readily understood. The *V. gracilis* is uniformly of much smaller size, the tubercles have the form of swollen ribs, and there is no expanded columellar lamina.

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41. a.

41. b.

42.

43. a.

43. b.

G.B.S. del et lith.

R. B. & R. imp.

VOLUTA.

PLATE XVIII.

Species 41. (Mus. Cuming.)

VOLUTA NUCLEUS. *Vol. testâ ovatâ, spirâ brevi, apice acutâ, anfractibus longitudinaliter crebricostatis, costis parvis, gradatim irregularibus et evanidis, anfractu ultimo supe hic illic varicoso, columellâ biplicatâ, plicis perparvis minutis obsoletis suprà; carneo-fuscescente, fusco hic illic variegatâ et punctatâ, varicibus labroque nigripunctatis.*

THE KERNEL VOLUTE. Shell ovate, spire short, sharp at the apex, whorls longitudinally closely ribbed, ribs small, gradually irregular and fading away, last whorl often varicose here and there, columella two-plaited, with a few minute obsolete plaits above; flesh-brown, here and there variegated and dotted with brown, lip and varices black-dotted.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 405.
Voluta perdicina, Megerle.
Hab. North Australia; Jukes.

The irregular varicose growth of the last whorl appears to be characteristic of the species.

Species 42. (Mus. Brit.)

VOLUTA BECKII. *Vol. testâ fusiformi-oblongâ, spirâ subacuminatâ, apice papillari, anfractibus transversim striatis, superiè concavo-declivibus, deinde plicato-tuberculatis, columellâ arcuatâ, fortiter triplicatâ, aperturâ ovato-oblongâ, labro simplici; fulvescente, lineis costaneis undatis hic illic longitudinaliter pictâ.*

BECK'S VOLUTE. Shell fusiformly oblong, spire somewhat acuminated, papillary at the apex, whorls transversely striated, concavely slanting round the upper part, then plicately tubercled, columella arched, strongly three-plaited, aperture ovately oblong, lip simple; fulvous, painted longitudinally here and there with waved chestnut lines.

BRODERIP, Pro. Zool. Soc. 1847, p. 43.
Hab. ——?

This is the largest species of the genus known, the accompanying figure being reduced more than a third from the original specimen.

Species 43. (Mus. Cuming.)

VOLUTA ZEBRA. *Vol. testâ ovato-oblongâ, Marginellæformi, crassâ, spirâ brevi, apice subpapillari, anfractibus lævibus, superiè tumidiusculis, medianis obsoletè plicato-nodulosis, columellâ fortiter quadriplicatâ, aperturâ subangustâ, labro incrassato, non reflexo; eburneâ, aut ferrugineo tinctâ, strigis numerosis castaneis undiflexuosis undique lineatâ.*

THE ZEBRA VOLUTE. Shell ovate-oblong, Marginella-shaped, thick, spire short, apex rather papillary, whorls smooth, rather swollen round the upper part, middle whorls obsoletely plicately nodulled, aperture rather narrow, lip thickened, not reflected; ivory-white or rust-stained, lineated throughout with numerous slightly flexuous chestnut streaks.

LEACH, Zoological Miscellany, vol. i. pl. 12. f. 1.
Marginella radiata, Lamarck.
Voluta radiata, Kiener.
Voluta stragulata, Megerle.
Eadem var., *Voluta lineata*, Leach.
Hab. Australia.

Two states of this species, differing immaterially from each other, were described some five and thirty years since by Dr. Leach, in his Zoological Miscellany under the names *V. zebra* and *lineata*. Eight years subsequent to this Lamarck describes it among the *Marginellæ* with the name *M. radiata*, from a specimen communicated to him by Mr. Alexander Macleay, Botanist and Secretary of the Linnæan Society, who afterwards settled in Australia. It was then described by Megerle under a fourth name *V. stragulata*, and published by Schubert and Wagner in their Supplement to the Conchylien Cabinet of Martini and Chemnitz.

45. a.

44.

45. b.

46.

G.B.S. lith. et lib.

R.B. & B. imp.

VOLUTA.

PLATE XIX.

Species 44. (Mus. Brit.)

VOLUTA MAMILLA. *Vol. testâ ovatâ, tenui, ventricosâ, spirâ brevi, in mamillam amplam tumidam distortâ, anfractibus lævibus, columellâ triplicatâ, aperturâ subampla; fulvâ, strigis undatis longitudinaliter reticulatâ, fusco immaculatâ medio interrottente.*

THE NIPPLE VOLUTE. Shell ovate, thin, ventricose, spire short, distorted into a large swollen nipple, whorls smooth, columella three-plaited, aperture rather large; fulvous, reticulated longitudinally with waved streaks, leaving an unspotted band in the middle.

GRAY, Sowerby, Thesaurus Conch. p. 207. pl. 50. f. 57, 58.

Hab. Australia.

This shell is in a very immature state, and there can be little doubt of the swollen apex being a malformation. No importance can be attached to this, and I adopt the species only because the painting with its light central band does not agree with any other.

Species 45. (Mus. Cuming.)

VOLUTA FLAVICANS. *Vol. testâ ovatâ, vel oblongo-ovatâ, leni producta, crassâ, spirâ brevisculâ, apice obtusâ, anfractibus lævibus, aut longitudinaliter sinuatissimè striatis, superè tumidiusculis, interdum squamato-tuberculatis, columellâ fortissimè quadriplicatâ, aperturâ subangustâ, labro superè sinuato; flavicante, viridi-fusco infra suturas maculatâ et undique nebulatâ.*

THE YELLOWISH VOLUTE. Shell ovate or oblong-ovate, produced at the base, thick, spire rather short, obtuse at the apex, whorls smooth or longitudinally very minutely striated, rather swollen round the upper part, sometimes squamately tubercled, columella very strongly four-plaited, aperture rather narrow, lip sinuated round the upper part; yellowish, blotched beneath the sutures, and mottled throughout with greenish brown.

GMELIN, Syst. Nat. p. 3464.

Pyrum Molthianum, Martini.

Voluta volvacea, pars, Lamarck.

Voluta punctata, Kiener (not of Swainson).

Var. elongata. *Voluta signifer*, Broderip.

Hab. Australia.

There is no species in which the columellar plaits are so strongly developed as in the *V. flavicans*. In some specimens they are raised nearly a quarter of an inch above the surface of the body-whorl, and are always more or less distinctly continued outwardly round the base. The shell is of very solid growth, coloured with an obscure mottled blue or greenish-red, and was known to the early Dutch conchologists by the name of the 'Bergamot Pear.'

The shell presented to Mr. Cuming by Dr. Dalen of Rotterdam, and described by Mr. Broderip as a new species (Pro. Zool. Soc. 1847, p. 232), under the name *V. signifer*, is an elongated form of *V. flavicans* in which the lip is not quite mature.

Species 46. (Mus. Dennison.)

VOLUTA CYMBIOLA. *Vol. testâ oblongo-pyriformi, spirâ brevi, apice obtusè papillari, suturis subradibus, subtiliter spinoso-squamatis, anfractibus superiè concavo-declivibus, deinde peculiariter spinoso-squamatis, squamis brevibus, acutis, erectis, subdistantibus, columellâ quadriplicatâ, aperturâ oblongâ, labro vix incrassato; cinereo-virescente, punctis lineisque fuscis brevibus, fulvo-umbratis, asperâ, suturis nigro-fusco lineatis, aperturæ fauce olivaceo-cinereâ.*

THE LITTLE BOAT VOLUTE. Shell oblong-pear-shaped, spire short, obtusely papillary at the apex, obtusely somewhat rude, finely spinosely squamate, whorls concavely slanting round the upper part, then peculiarly spinosely squamate, the scales being short, sharp, erect, and rather distant, columella four-plaited, aperture oblong, lip scarcely thickened; ash-green, sprinkled with brown fulvous shaded dots and short lines, sutures lineated with black-brown, interior of the aperture olive-ash.

CHEMNITZ, Conch. Cab. vol. x. p. 141. pl. 148. f. 1385, *b*.

Voluta coronata, Kiener.

Hab. Moluccas.

This species differs remarkably from any other; there is a great peculiarity in the style of painting, as well as in the short erect spine-scales with which it is coronated.

47.

48.

49.

50.

VOLUTA.

PLATE XX.

Species 47. (Mus. Brit.)

VOLUTA LUTEOSTOMA. *Vol. testâ subquadrato-ovatâ, crassâ, spirâ brevi, apice obtusâ, anfractibus longitudinaliter striatis, superne angulatis, ad angulum tuberculatis et acutè squamatis, columellâ fortissimè quadriplicatâ, aperturâ oblongâ, labro intus incrassato, subreflexo; lacteâ, intensè fusco trigono-reticulatâ, aperturæ fauce vividè luteâ.*

THE YELLOW MOUTH VOLUTE. Shell somewhat squarely ovate, thick, spire short, obtuse at the apex, whorls longitudinally striated, angulated round the upper part, tubercled and sharply squamate at the angle, columella very strongly four-plaited, aperture oblong, lip thickened within, slightly reflected; cream-colour, triangularly reticulated with very deep brown, interior of the aperture bright yellow.

CHEMNITZ, Conch. Cab. vol. ii. pl. 177. f. 1707, 8.
Murex luteostoma, Meuschen.
Voluta vespertilio, var., Martini.
Voluta imperialis, var., Dillwyn.
Voluta chrysostoma, Swainson.
Hab.

The *V. luteostoma* is very distinctly characterized by its square thickened growth, squamate tubercles, and pattern of colouring, consisting externally of a very dark brown transverse net-work, and internally of a bright saffron yellow. Martini's figure of the species, Conch. Cab. vol. iii. pl. 97. f. 936, appears to have escaped observation.

Species 48. (Mus. Brit.)

VOLUTA LYRÆFORMIS. *Vol. testâ fusiformi-turritâ, spirâ acuminatâ, valdè productâ, apice globoso-papillari, anfractibus convexis, undique longitudinaliter crebricostatis, costis interstitiisque longitudinaliter striatis, anfractu ultimo basi transversim sulcato-corrugato, columellâ multiplicatâ, plicis inferioribus majoribus, cæteris parvis, aperturâ parviusculâ, oblongâ, labro subincrassato, extus varicoso; pallidè carneâ, maculis lineisque cæruleis castaneis et rufescentibus fasciatim pictâ.*

THE LYRE-SHAPED VOLUTE. Shell fusiformly turreted, spire acuminated, very much produced, globosely papillary at the apex, whorls convex, longitudinally closely ribbed throughout, ribs and interstices longitudinally striated, last whorl transversely grooved in a wrinkled manner at the base, columella many-plaited, lower plaits larger, the rest small, aperture rather small, oblong, pale flesh-colour, painted in a banded manner with blue, chestnut, and reddish spots and lines.

BRODERIP, Zoological Journal, vol. iii. p. 83. pl. 3. f. 3.
Mitra lyræformis, Swainson.
Hab. East Coast of Africa.

This beautiful shell in our national collection, the only one of the species at present known, is remarkable for its elongated growth, ribbed sculpture and richly variegated painting.

The shell figured by M. Kiener for *Voluta lyræformis* appears to be the *V. megaspira* which follows.

Species 49. (Mus. Cuming.)

VOLUTA MEGASPIRA. *Vol. testâ fusiformi, turritâ, tenuiculâ, spirâ elongatâ, exsertâ, apice globoso-papillari, anfractibus transversim, subtiliter striatis, longitudinaliter plicato-costatis, costis aperturam versus gradatim evanidis, columellâ quinqueplicatâ, plicis superioribus parvis, subobsoletis, aperturâ oblongâ, parviusculâ, labro vix incrassato; carneo-fuscescente, rufescente-castaneo irregulariter maculatâ et fulguratâ.*

THE LARGE SPIRE VOLUTE. Shell fusiform, turreted, rather thin, spire elongated, exserted, apex globosely papillary, whorls transversely finely striated, longitudinally plicately ribbed, ribs gradually fading towards the aperture, columella five-plaited, upper plaits small, somewhat obsolete, aperture oblong, rather small, lip scarcely thickened; light flesh-brown, irregularly blotched and waved with reddish chestnut.

SOWERBY, Thesaurus Conch., p. 298. pl. 48. f. 31, 32.
Hab. Japan; Siebold.

This elegant fusiform species is of rather light growth, delicately plicately ribbed, the ribs being sharp and compressed, and nearly obliterated on the last whorl. The specimen here figured from Mr. Cuming's collection, was brought from Japan by Dr. Siebold. There is a specimen in the collection of M. Delessert in Paris, figured erroneously by Kiener for the *V. lyræformis*, and another in the Museum at Leyden.

51.

52. a.

52. b.

53.

54. a.

54. b.

55.

VOLUTA.

PLATE XXI.

Species 51. (Mus. Brit.)

VOLUTA COSTATA. *Vol. testâ oblongo-ovatâ, spirâ brevius-culâ, turritâ, apice subacutâ, anfractibus lævibus, vel minutissimè decussatim striatis, basi corrugato-sulcatis, ad suturas depresso-planis, deinde longitudinaliter costatis, costis regularibus, rotundatis, superne mucronatis, columellâ multiplicatâ, plicis tribus inferioribus distinctis, cæteris parvis, ferè obsoletis; albâ, crocco-rufescente promiscuè sparsim maculatâ et lineatâ.*

THE RIBBED VOLUTE. Shell oblong-ovate, spire rather short, furreted, rather sharp at the apex, whorls smooth, or very minutely decussately striated, corrugately grooved at the base, depressly flattened at the sutures, then longitudinally ribbed, ribs regular, rounded, pointed at the upper extremity, columella many-plaited, the three lower plaits distinct, the rest small, almost obsolete; white, promiscuously sparingly spotted and lineated with light saffron red.

SWAINSON, Journal of Science, vol. 17, p. 33.

Voluta anna, Lesson.

Harpula harpa, Swainson (in Exotic Conch.)

Voluta harpa, Deshayes (not of Barnes).

Voluta lyrata, Sowerby.

Hab. Moluccas.

The depressly flattened structure of the upper part of the whorls forms a characteristic angular shelf next the sutures, upon the edge of which the ribs terminate each in a point.

Species 52. (Mus. Brit.)

VOLUTA PUNCTATA. *Vol. testâ ovatâ, crassiusculâ, spirâ brevi, apice obtusâ, anfractibus superne concavo-declivibus, deinde subobscurè tuberculatis, columellâ fortiter quadriplicatâ, et promiscuè punctatâ.*

THE DOTTED VOLUTE. Shell ovate, rather thick, spire short, obtuse at the apex, whorls concavely slanting round the upper part, then somewhat obscurely tubercled, columella strongly four-plaited; light fulvous rose, marked with square spots and promiscuously dotted of a darker colour.

SWAINSON, Zoological Illustrations, 1st Series, pl. 161.

Hab. —— ?

This shell is not in very good condition, but has sufficient character to distinguish it from any other species. There is nothing remarkable in the form; the pattern and colouring are peculiar, and not so much faded as to prevent an easy recognition of the species should a second specimen be found.

Species 53. (Mus. Brit.)

VOLUTA CONCINNA. *Vol. testâ fusiformi, subgracili, spirâ exsertâ, apice papillari, anfractibus transversim subtiliminè elevato-striatis, superne angulatis, et tuberculato-plicatis, columellâ quadriplicatâ, aperturâ subangustâ; fulvâ, lineis castaneis undulatis, creberrimè longitudinaliter pictâ.*

THE NEAT VOLUTE. Shell fusiform, rather slender, spire exserted, papillary at the apex, whorls transversely very finely elevately striated, angulated round the upper part, and tubercularly plicated, columella four-plaited, aperture rather narrow; fulvous, very closely longitudinally painted with wavy chestnut lines.

BRODERIP, Pro. Zool. Soc. 1836, p. 43.

Hab. —— ?

An elegantly formed species, of which this is the only specimen that has been seen. It is of a light fulvous colour, densely longitudinally striped throughout with slightly waved chestnut lines.

Species 54. (Mus. Brit.)

VOLUTA PULCHRA. *Vol. testâ ovato-oblongâ, spirâ subexsertâ, apice obtusâ et minutè nodulosâ, anfractibus lævibus, superne concavo-declivibus, angulatis, ad angulum tuberculatis, tuberculis prominentibus, subcompressis, erectis, mucronatis, columellâ quadriplicatâ, saturatè trifasciatâ, maculis trigonis numerosis albis interstinctâ, fasciis punctis grandibus linearibus intensè fuscis peculiariter aspersis, columellâ labroque cæruleo aurantio-carneolis.*

THE BEAUTIFUL VOLUTE. Shell ovately oblong, spire somewhat exserted, obtuse and minutely noduled at the apex, whorls smooth, concavely declining round the upper part, angled, tubercled at the angle, tubercles prominent, somewhat compressed, erect, pointed, columella four-plaited, aperture oblong, lip scarcely thickened; fulvous bay, darker in three bands, leaving numerous white triangular spots, bands peculiarly

sprinkled with very deep brown large linear dots, lip and columella bright orange carnelion.

SOWERBY, Tankerville Cat. App. p, 28, pl. 4, f. 2.

Hab. Australia; Macgillivray.

When Mr. Sowerby named this shell 'The Beautiful,' he little anticipated so complete a verification of the term as we find in the specimen before us. The species has only been known, hitherto, in a worn, discoloured state; in the shell here figured, collected in Australia by Mr. Macgillivray, and presented to the British Museum by the Earl of Derby, the painting is in its perfection, and a more beautiful object it is not easy to conceive.

The *Voluta pulchra* is nearest allied to *V. vespertilio*, but may be readily distinguished by its different style of net-work colouring and the sprinkling of dark oblong blotches, over the tubercles, around the middle, and at the base.

Species 55. (Mus. Brit.)

VOLUTA BULLATA. *Vol. testâ oblongo-cylindraceâ, tenuiculâ, spirâ brevi, obtusâ, apice papillari, anfractibus lævibus, tumidiusculis, superne contractis, columellâ biplicatâ, plicis basalibus, aperturâ augustâ, prope ad spiram ascendente, labro vix incrassato; fulvâ, lineis undulatis confusis maculisque castaneis promiscue pictâ.*

THE BUBBLE-LIKE VOLUTE. Shell oblong-cylindrical, rather thin, spire short, papillary at the apex, whorls smooth, rather swollen, contracted at the upper part, columella two-plaited, plaits basal, aperture narrow, ascending nearly to the spire, lip scarcely thickened; fulvous, promiscuously painted with confused waved lines and chestnut blotches.

SWAINSON, Zoological Illustrations, Second Series.

Hab. Algoa Bay, South Africa.

A very remarkable species, the most abnormal form of the genus, of which there are two specimens in the British Museum.

56.

57. a.

57. b.

58. a.

59.

58. b.

60. a.

61.

60. b.

G. B. S. del. et lith.

R. B. & R. imp.

VOLUTA.

PLATE XXII.

Species 56. (Mus. Cuming.)

VOLUTA GUTTATA. *Vol. testâ pyriformi-oblongâ, crassâ, lœvi subrecurvâ, spirâ acuminatâ, apice subacutâ, anfractibus plicato-costatis, costis gradatim evanidis, columellâ multiplicatâ, plicis duabus tribusve inferioribus distinctis, ceteris minutis, aperturâ parviusculâ, labro incrassato, varicoso, intus obsolètè denticulato; rosaceo-albâ, guttis rufo-fuscis hic illic irregulariter pictâ.*

THE SPOTTED VOLUTE. Shell pyramidally oblong, thick, a little recurved at the base, spire acuminated, rather sharp at the apex, whorls plicately ribbed, ribs gradually fading away, columella many-plaited, two or three lower plaits distinct, the rest minute, aperture rather small, lip thickened, varicose, obsoletely denticulated within; pinkish-white, painted irregularly with blotches of red-brown.

Hab. Honduras; Dyson.

An interesting new species of which two examples were collected, belonging to the same type as the little *V. Guildingii*.

Species 57. (Mus. Metcalfe.)

VOLUTA CYLLENIFORMIS. *Vol. testâ ovatâ, crassiusculâ, lœvi recurvâ, spirâ conicâ, apice acutâ, anfractibus superiè depresso-sulcatis, longitudinaliter acutè plicato-costatis, liris subtilissimis plus minus obsolètè decussatis, columellâ sulcè rugulosâ, triplicatâ, plicis parvis, acutis, aperturâ parvâ, labro incrassato, varicoso; albâ, guttis castanio-fuscescentibus hic illic promiscuè pictâ.*

THE CYLLENE-SHAPED VOLUTE. Shell ovate, rather thick, recurved at the base, spire conical, sharp at the apex, whorls depressly grooved round the upper part, longitudinally sharply plicately ribbed, more or less obsoletely decussated with fine ridges, columella rugulose in front, three-plaited, plaits small, sharp, aperture small, lip thickened, varicose; white, promiscuously painted here and there with light orange-brown spots.

SOWERBY, Thesaurus Conch. p. 214. pl. 55. f. 112, 113.

Hab. ——?

This interesting little species, so nearly resembling a *Cyllene* in general aspect, is at present unique in the collection of William Metcalfe, Esq.

Species 58. (Mus. Taylor.)

VOLUTA ABYSSICOLA. *Vol. testâ pyriformi, tenui, spirâ brevi, subturritâ, apice acutâ, anfractibus superiè depresso-canaliculatis, liris numerosis acutis longitudinalibus et transversis undique crebrirnè subprofundè cancellatis, liris superiè uncronatis, columellâ quadriplicatâ, aperturâ subangustâ, labro tenui; fulvescente-cinereâ, fasciis rufo-fuscis angustis tribus vel quatuor cingulatâ.*

THE DEEP-INHABITING VOLUTE. Shell pear-shaped, thin, spire short, somewhat turreted, sharp at the apex, whorls depressly channelled round the upper part, rather deeply very closely cancellated throughout with numerous sharp ridges, which are pointed at the upper part, columella four-plaited, aperture rather narrow, lip thin; fulvous-ash colour, encircled with three or four narrow red-brown bands.

ADAMS and REEVE, Moll. Voy. Samarang, pl. 7. fig. 6.

Hab. Cape of Good Hope (dredged from a bank of dead shells and rounded iron-stones, at the depth of 132 fathoms); Belcher.

This elaborately carved species is one of considerable interest, from the circumstance of its being the first living representative of a group of highly-sculptured fossil species, abounding in the Eocene portion of our Tertiary beds. The principal of these *V. lima, elevata, crenulata,* and *digitalina*, are well known to geologists and were distinguished as a subgenus by Mr. Swainson, under the name *Volutilithes*.

The *Voluta abyssicola*, under consideration, is not identical with any of the fossil species, the surface being characterized by a closer and more sharply defined pattern of lattice-work, comprising as many as thirty transverse and forty longitudinal ridges in a whorl. The upper edge of the whorls is depressly flattened at the sutures, forming a narrow ascending channel. The ridges are slightly nodulous at the point of crossing, and round the upper extremity impart a coronated aspect to the shell. The columellar plaits, four in number, are sharp and delicate. The outer lip is thin and does not appear to be mature.

Species 59. (Mus. Delessert.)

VOLUTA DUBIA. *Vol. testâ ovato-fusiformi, spirâ apicem*

87957

versus papillari, anfractibus transversim tenuissimè striatis, longitudinaliter subplicatis, columellâ viz plicatâ; flaccidæ, maculis quadratis fulvo-rufis seriatim tessellatâ.

The doubtful Volute. Shell ovately fusiform, spire papillary towards the apex, whorls transversely very finely striated, longitudinally slightly plicated, columella scarcely plaited; yellowish, tessellated with rows of square fulvous-red spots.

Broderip, Zool. Soc. vol. iii. p. 81. pl. 3. f. 1.

Fusus tessellatus, Schubert and Wagner.

Hab. ——?

The columellar plaits of this species, which is unknown to me, are so faintly developed, that some doubt has been entertained of its genus. Shortly after the publication of it as a *Voluta* in the Zoological Journal, from a specimen brought to this country by M. Rousel which Mr. Sowerby mentions having had in his possession, a second specimen was figured by Schubert and Wagner in their Supplement to the 'Conchylien Cabinet' as a *Fusus*. M. Kiener published a third specimen in his monograph of the same genus, in which the columellar plaits are not indicated at all. In my monograph of *Fusus* I introduced a copy of this (Conch. Icon. *Fusus*. Pl. XIV. Fig. 53). Mr. Sowerby has, however, kindly drawn my attention to its identity with the figure of *Voluta dubia* of the Zoological Journal, and from the papillary structure of the apex there can be little doubt that the true position of this very rare and interesting species is in the genus to which Mr. Broderip first assigned it.

Species 60. (Mus. Sheepmaker.)

Voluta cassidula. *Vol. testâ ovatâ, subinflatâ, spirâ brevi, apice acutâ, anfractibus convexis, tenuissimè sulcatis, undique concentricè crebriliratis, columellâ multiplicatâ, plicis tribus inferioribus distinctis, acutis, cæteris minutis, numerosis, irregularibus, aperturâ oblongâ, labro peculiariter effuso; carneo-lacteâ, lineis purpureo-fuscis subtilibus transversis guttisque promiscuè pictâ, columellâ labroque pallidè croceis.*

The little helmet Volute. Shell ovate, somewhat inflated, spire short, sharp at the apex, whorls convex, rather swollen, concentrically closely ridged throughout, columella many-plaited, the three lowest plaits sharp and distinct, the rest minute, numerous, irregular, aperture oblong, lip peculiarly effused; flesh-tinted cream-colour, promiscuously painted with purple-brown spots and fine transverse lines, lip and columella light saffron yellow.

Hab. Japan.

An interesting new species from the collection of Mr. Sheepmaker of Amsterdam, of which two or three specimens of similar character are known.

Species 61. (Mus. Cuming.)

Voluta Guildingii. *Vol. testâ pyramidali-oblongâ, basi recurvâ, spirâ acuminatâ, anfractibus concentricè obtusè costatis, interstitiis liris subtilibus clathratis, columellâ multiplicatâ, plicis duabus tribusve inferioribus distinctis, cæteris minutis, aperturâ parviusculâ, labro incrassato, varicoso, intus obsoletè denticulato; roseo-albâ, guttis rufo-fuscis hic illic irregulariter pictâ.*

Guilding's Volute. Shell pyramidally oblong, recurved at the base, spire acuminated, whorls concentrically obtusely ribbed, interstices lattiered with fine ridges, columella six-plaited, the three lower plaits distinct, aperture small, lip thickened, varicose, minutely denticulated within; dark purple-brown, promiscuously painted with a few red spots.

Sowerby, Thesaurus Conch. p. 214. pl. 55. f. 110, 111.

Hab. St. Vincent's, West Indies.

The concentric ribs of this little species range somewhat obliquely, the interstices being finely lattiered with small ridges.

VOLUTA.

	Plate.	Species.
abyssicola, *Adams & Reeve*	XXII.	58
ancilla, *Solander*	XVII.	39
angulata, *Swainson*	XV.	35
anna, Lesson	XXI.	51
Arabica, Gmelin	XVII.	38
aulica, *Solander*	II.	4
Beckii, *Broderip*	XVIII.	42
Brasiliana, *Solander*	XV.	34
bullata, *Swainson*	XXI.	55
carneolata, Lamarck	VIII.	18
cassidula, *Reeve*	XXII.	60
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ERRATUM.

Pl. XIX. Sp. 46. To *V. cymbiola*, add as synonyme *V. flammula*, Wood.

MONOGRAPH

OF THE GENUS

FISSURELLA.

Art's finest pencil could but rudely mock
The painted Limpets broidered on a rock,
And those gay watery grots he would explore,
Small excavations on a rocky shore,
That seem like fairy baths or mimic wells,
Richly embossed with weeds and choicest shells,
As if her trinkets Nature chose to hide
Where nought invaded but the flowing tide.—*Taylor.*

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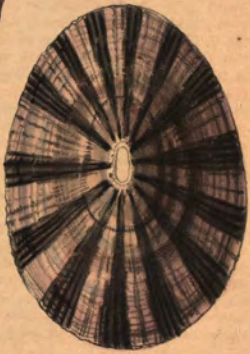

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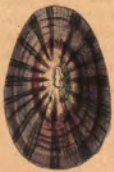

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VOLUTA.

PLATE XX.

Species 47. (Mus. Brit.)

VOLUTA LUTEOSTOMA. *Vol. testâ subquadrato-ovatâ, crassâ, spirâ brevi, apice obtusâ, anfractibus longitudinaliter striatis, superiùs angulatis, ad angulum tuberculatis et acutè squamatis, columellâ fortissimè quadriplicatâ, aperturâ oblongâ, labro intus incrassato, subreflexo; lacteâ, intensè fusco trigono-reticulatâ, aperturæ fauce vividè luteâ.*

THE YELLOW MOUTH VOLUTE. Shell somewhat squarely ovate, thick, spire short, obtuse at the apex, whorls longitudinally striated, angulated round the upper part, tubercled and sharply squamate at the angle, columella very strongly four-plaited, aperture oblong, lip thickened within, slightly reflected; cream-colour, triangularly reticulated with very deep brown, interior of the aperture bright yellow.

CHEMNITZ, Conch. Cab. vol. ii. pl. 177. f. 1707, 8.
Murex luteostoma, Meuschen.
Voluta vespertilio, var., Martini.
Voluta imperialis, var., Dillwyn.
Voluta chrysostoma, Swainson.

Hab.

The *V. luteostoma* is very distinctly characterized by its square thickened growth, squamate tubercles, and pattern of colouring, consisting externally of a very dark brown transverse net-work, and internally of a bright saffron yellow. Martini's figure of the species, Conch. Cab. vol. iii. pl. 97. f. 936, appears to have escaped observation.

Species 48. (Mus. Brit.)

VOLUTA LYRÆFORMIS. *Vol. testâ fusiformi-turritâ, spirâ acuminatâ, valdè productâ, apice globoso-papillari, anfractibus convexis, undique longitudinaliter crebricostatis, costis interstitiisque longitudinaliter striatis, anfractu ultimo basi transversim sulcato-corrugato, columellâ multiplicatâ, plicis inferioribus majoribus, cæteris parvis, aperturâ parvisculâ, oblongâ, labro subincrassato, extus varicoso; pallidè carneâ, maculis lineisque cæruleis castaneis et rufescentibus fasciatim pictâ.*

THE LYRE-SHAPED VOLUTE. Shell fusiformly turreted, spire acuminated, very much produced, globosely papillary at the apex, whorls convex, longitudinally closely ribbed throughout, ribs and interstices longitudinally striated, last whorl transversely grooved in a wrinkled manner at the base, columella many-plaited, lower plaits larger, the rest small, aperture rather small, oblong, pale flesh-colour, painted in a banded manner with blue, chestnut, and reddish spots and lines.

BRODERIP, Zoological Journal, vol. iii. p. 83. pl. 3. f. 3.
Mitra lyræformis, Swainson.

Hab. East Coast of Africa.

This beautiful shell in our national collection, the only one of the species at present known, is remarkable for its elongated growth, ribbed sculpture and richly variegated painting.

The shell figured by M. Kiener for *Voluta lyræformis* appears to be the *V. megaspira* which follows.

Species 49. (Mus. Cuming.)

VOLUTA MEGASPIRA. *Vol. testâ fusiformi, turritâ, tenuiculâ, spirâ elongatâ, exsertâ, apice globoso-papillari, anfractibus transversim, subtiliter striatis, longitudinaliter plicato-costatis, costis aperturam versus gradatim evanidis, columellâ quinqueplicatâ, plicis superioribus parvis, subobsoletis, aperturâ oblongâ, parvisculâ, labro vix incrassato; carneo-fuscescente, rufescente-castaneo irregulariter maculatâ et fulguratâ.*

THE LARGE SPIRE VOLUTE. Shell fusiform, turreted, rather thin, spire elongated, exserted, apex globosely papillary, whorls transversely finely striated, longitudinally plicately ribbed, ribs gradually fading towards the aperture, columella five-plaited, upper plaits small, somewhat obsolete, aperture oblong, rather small, lip scarcely thickened; light flesh-brown, irregularly blotched and waved with reddish chestnut.

SOWERBY, Thesaurus Conch., p. 298. pl. 48. f. 31, 32.

Hab. Japan; Siebold.

This elegant fusiform species is of rather light growth, delicately plicately ribbed, the ribs being sharp and compressed, and nearly obliterated on the last whorl. The specimen here figured from Mr. Cuming's collection, was brought from Japan by Dr. Siebold. There is a specimen in the collection of M. Delessert in Paris, figured erroneously by Kiener for the *V. lyræformis*, and another in the Museum at Leyden.

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G.B.S. del et lith.

R.B. & R. imp.

FISSURELLA.

PLATE II.

Fig. 8.

An interesting variety of Sp. 3. *F. neglecta*, in which the shell is delicately tinged with pink in the absence of the olive-green colouring.

For Sp. 8. see Pl. IV.

Species 9. (Mus. Cuming.)

FISSURELLA PULCHRA. *Fiss. testâ oblongo-ovatâ, anticè attenuatâ, crassiusculâ, convexo-depressâ, concentricè tenuistriatâ, orificio oblongo, lateribus medio excavatis; purpureo-cinerascente, purpureo-rufo circa orificium lenliginoso, radiis rufo-purpureis subobscurè pictâ.*

THE BEAUTIFUL FISSURELLA. Shell oblong-ovate, attenuated anteriorly, rather thick, convexly depressed, concentrically finely striated, aperture oblong, sides excavated about the middle; purple-ash, spotted with purple-red around the orifice, and obscurely painted with rays of the same colour.

SOWERBY, Pro. Zool. Soc., 1834, p. 124.

Hab. Valparaiso (on the rocks); Cuming.

The purple-red freckled painting around the orifice is a very characteristic feature in this species.

Species 10. (Fig. 10 and 12, Mus. Cuming.)

FISSURELLA LIMBATA. *Fiss. testâ oblongo-ovatâ, anticè vix attenuatâ, depressiusculâ, lateribus interdum paullùm compressâ, levigatâ, lineis concentricis incrementi plus minùs distinctis, orificio oblongo, lateribus medio subcurvatis; cinerascente-albâ, purpureo-roseo radiatâ, interdum purpureo-carneâ, obscurè radiatâ, nigro circa aperturam lineâ, limbo basali purpureo-nigro.*

THE MARGINED FISSURELLA. Shell oblong-ovate, slightly attenuated anteriorly, rather depressed, sometimes a little compressed at the sides, smooth, concentric lines of growth more or less distinct, orifice oblong, sides slightly contracted in the middle; ash-white, rayed with purple-rose, sometimes purple-flesh colour stained with black around the aperture, basal margin purple-black.

SOWERBY, Pro. Zool. Soc., 1834, p. 123.

Hab. Valparaiso (on the rocks); Cuming.

Although the two specimens figured present such a different aspect, they are varieties of the same species.

Species 11. (Mus. Cuming.)

FISSURELLA NIGRA. *Fiss. testâ ovali, elevatiusculâ, crassâ, concentricè striatâ, liris obsoletis radiatâ, orificio ovali, margine excavato; purpureo-nigrâ, fascis concentricis, lineisque numerosissimis subtilibus radiantibus, saturatè tinctâ, limbo basali cinerascente.*

THE BLACK FISSURELLA. Shell oval, rather elevated, thick, concentrically striated, and radiated with obsolete ridges, orifice oval, with the edge excavated; purple-black, stained with dark concentric bands and numerous fine radiating lines, basal margin pale-ash.

LESSON, Voy. de la Coquille, p. 412.

Fissurella violacea, Eschscholtz.

Fissurella grandis, Sowerby.

Hab. Valparaiso and Island of Chiloe (attached to the under surface of stones on the shore); Cuming.

The colouring of this fine species is of a purplish inky hue, nearly black.

For Species 12. see Pl. IV.

Species 13. (Mus. Cuming.)

FISSURELLA ORIENS. *Fiss. testâ oblongo-ovatâ, depressiusculâ, radiatim multiliratâ, liris angustis, crebris, subobscuris, orificio oblongo, lateribus medio excavatis; cinerascente, purpureo-nigro radiatâ.*

THE RISING SUN FISSURELLA. Shell oblong-ovate, rather depressed, radiately many-ridged, ridges narrow, close-set, rather obscure, orifice oblong, sides excavated in the middle; pale ash, rayed with purple-black.

SOWERBY, Pro. Zool. Soc., 1834, p. 124.

Hab. Valparaiso (attached to rocks); Cuming.

This species approaches certain varieties of the *F. limbata* in general aspect, but may be readily distinguished by its more depressed growth, and obscure sculpture of ridges; and the orifice is broader.

M. D'Orbigny very erroneously quotes this as a synonyme of *F. picta*.

Species 14. (Mus. Cuming.)

Fissurella costata. *Fiss. testâ suborbiculari-ovatâ, anticè attenuatâ, radiatim rugoso-liratâ, liris obtusè nodosis, orificio parvusculo, oblongo, lateribus medio paululum excavatis; flavido-cinerascente, fusco-olivaceo radiatâ.*

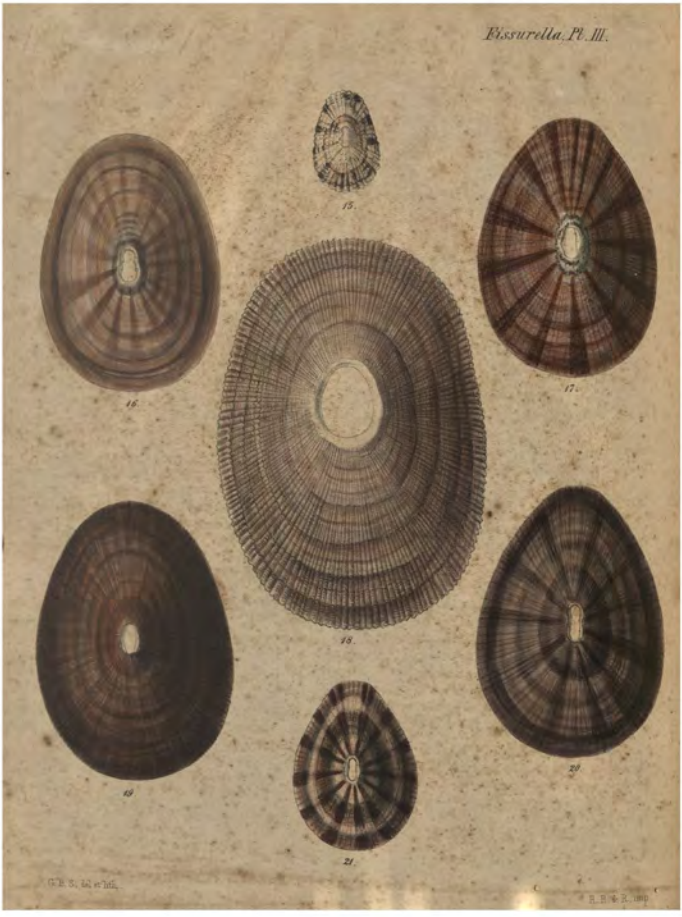
The ribbed Fissurella. Shell somewhat orbicularly ovate, attenuated anteriorly, radiately roughly ridged, ridges obtusely nodose, orifice rather small, oblong, sides a little excavated in the middle; yellowish-ash, rayed with brownish-olive.

Lesson, Voy. de la Coquille, p. 410; Illus. Zool. pl. 12. *Fissurella Chilensis*, Sowerby.

An eadem? *Fissurella rudis*, Deshayes.

Hab. Valparaiso (in exposed situations on the rocks at low water); Cuming.

The orifice inclines somewhat anteriorly in this species. It is very abundant on the coast of Chili.


Fissurella. Pl. III.
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G. B. S. del et lith.
R. B. & R. imp.

FISSURELLA.

PLATE III.

Species 15. (Mus. Cuming.)

FISSURELLA NATALENSIS. *Fiss. testâ oblongo-ovatâ, anticè attenuatâ, subcompressâ, radiatim costatâ, costis inæqualibus, subtilissimè nodosis, orificio oblongo, subangusto, lateribus medio paululum excavatis; albidâ, radiis violaceo-nigricantibus pictâ.*

THE NATAL FISSURELLA. Shell oblong-ovate, attenuated anteriorly, rather compressed, radiately ribbed, ribs uneven and rugged, somewhat obsoletely nodose, orifice oblong, rather narrow, sides a little excavated in the middle; whitish, painted with violet-black rays.

KRAUSS, Südafrick. Moll. p. 60. pl. 4. f. 8.

Hab. Port Natal, South Africa.

The concentric lines of growth have very much the appearance, here and there, of festooned ridges. The species is frequently of a rather darker greyish or greenish hue than the specimen here represented.

Species 16. (Mus. Cuming.)

FISSURELLA BRIDGESII. *Fiss. testâ ovatâ, anticè subattenuatâ, crassiusculâ, depressâ, concentricè subtilissimè striatâ, orificio oblongo, latiusculo, lateribus medio excavatis; fusco-purpureo et cinereo-nigricante zonatricè fasciatâ, obscurè albiradiatâ, margine basali latissimo, purpureo.*

BRIDGES' FISSURELLA. Shell ovate, slightly attenuated anteriorly, rather thick, depressed, concentrically very finely striated, orifice oblong, rather wide, sides excavated in the middle; concentrically banded with brownish purple and ashy black, obscurely white-rayed, basal margin very broad, purple.

Hab. Quintero, Chili (on the rocks); Bridges.

This fine species approaches the *F. latimarginata* in general aspect, but will be found to differ materially on comparison. It is of thicker growth, not radiately striated, the orifice differs in being larger and excavated at the sides, and the painting is of a lighter purple-ash.

Species 17. (Mus. Cuming.)

FISSURELLA CUMINGII. *Fiss. testâ ovatâ, anticè attenuatâ, depressâ, radiatim costatâ, costis obtusis, inæqualibus, obscurè squamato-nodosis; purpurascente-cinereâ et ferrugineâ, intensè purpureo radiatâ, circa orificium albâ, obscurè sparsim punctatâ, margine basali latissimo, fulvo-cinerascente, purpureo maculatâ.*

CUMING'S FISSURELLA. Shell ovate, attenuated anteriorly, depressed, radiately ribbed, ribs obtuse, unequal, obscurely squamately nodose; purple-ash or rust-colour, rayed with deep purple, white around the orifice, sprinkled with a few obscure dots, basal margin very broad, fulvous ash, blotched with purple.

Hab. Quintero, Chili; Bridges.

Another interesting new species, collected by Mr. Bridges in the same locality with the preceding, in which the coloured margin of the base is as broad as in the *F. latimarginata*. I have the pleasure of naming it after Mr. Cuming in honour of his productive researches in this genus along the Western Coast of South America, which have been so successfully followed up by Mr. Bridges.

Species 18. (Mus. Cuming.)

FISSURELLA CRENULATA. *Fiss. testâ oblongo-ovatâ, subirregulari, depresso-convexâ, radiatim subtiliter et creberrimè striatâ, striis transversim subtilissimè obsoletè squamato-striatis, orificio amplo, subcirculari, margine basali crenulato; rosaceo-fulvâ.*

THE CRENULATED FISSURELLA. Shell oblong-ovate, somewhat irregular, deeply convex, radiately finely and very closely ridged, ridges transversely very finely striated with obsolete scales, orifice large, nearly orbicular, basal margin crenulated; pinkish fulvous-colour.

SOWERBY, Tankerville Catalogue, App. p. vi.

Hab. Monterey, Upper California.

This remarkable species stands alone, no other having been discovered with which it would profit to constitute any comparison.

Species 19. (Mus. Cuming.)

FISSURELLA LATIMARGINATA. *Fiss. testâ ovatâ, anticè attenuatâ, depressâ, medio elevatiusculâ, radiatim multistriatâ, orificio oblongo-ovato; intensè purpureo-brunneo, margine basali latissimo, purpureo-brunneo.*

THE WIDE-EDGED FISSURELLA. Shell ovate, attenuated

anteriorly, depressed, rather elevated in the middle, radiately many-striated, orifice oblong-ovate; very dark purple-brown, basal margin very broad, purple-brown.

Sowerby, Pro. Zool. Soc. 1834, p. 126. Conch. Illus. f. 69.
Hab. Valparaiso and Iquiqui, Peru (on the rocks); Cuming.

Distinguished by its deep purple-brown or chocolate colouring, and broad dark-coloured base.

Species 20. (Mus. Cuming.)

Fissurella biradiata. *Fiss. testâ ovatâ, anticè acuminato-attenuatâ, depressâ, medio elevatiusculâ, radiatim profusè striatâ, striis tumidiusculis, orificio oblongo, lateribus medio coarctatis; intensè cinereo-purpureâ, radiis pallidis, quorum uno ad utrumque latus magis conspicuo, obscurè notatâ, margine basali latiusculo, intensè cinereo-purpureo.*

The two-rayed Fissurella. Shell ovate, acuminately attenuated anteriorly, depressed, rather elevated in the middle, radiately profusely striated, striæ somewhat swollen, orifice oblong, sides contracted in the middle; dark ash-purple, obscurely marked with light rays, one of which on each side is more conspicuous than the rest, basal margin rather broad, very dark ash-purple.

Frembly, Sowerby, Pro. Zool. Soc. 1834, p. 124.
Hab. Valparaiso and Iquiqui, Peru (under stones on the shore); Cuming.

The rays of this species are very obscure, with the exception of one on each side diverging from the denticulated edge of the orifice.

Species 21. (Mus. Cuming.)

Fissurella bella. *Fiss. testâ depresso-convexâ, medio elevatiusculâ, anticè acuminato-attenuatâ, radiatim obscurè sulcatâ, margine basali angusto; cinereo-fuscâ, saturatè et pallidè alternatim concentricè fasciatâ, purpureo-lacco vividè radiatâ.*

The pretty Fissurella. Shell deeply convex, rather elevated in the middle, acuminately attenuated anteriorly, radiately obscurely grooved, basal margin narrow, orifice oblong; ash-brown, banded concentrically alternately lighter and darker, rayed with bright crimson lake.

Hab. Cape Horn; Darwin.

A comparatively smooth species, conspicuously painted with thirteen purple-lake rays.

Fissurella, Pl. IV.

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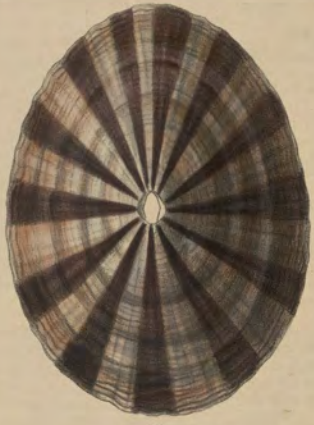

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Sowerby, del. et lith.

Reeve, Benham & Reeve imp.

FISSURELLA.

PLATE IV.

Species 2. (Mus. Cuming.)

FISSURELLA VOLCANO. *Fiss. testâ ovato-conicâ, anticè vix attenuatâ, radiatim costatâ, costis rudibus, inæqualibus, hic illic majoribus, orificio oblongo; albidâ, roseo radiatâ, radiis nigropunctatis, interdum roseâ, purpureo-radiatâ, circa orificium nigropunctatâ.*

THE VOLCANO FISSURELLA. Shell ovately conical, slightly attenuated, anteriorly rather thick, radiately ribbed, ribs rude, uneven, here and there larger, orifice oblong; whitish, rayed with rose, rays dotted with black, sometimes rose, rayed with purple, black-dotted around the orifice.

Hab. Santa Barbara, California; Hinds.

An elevated conical shell varying somewhat in colour, but similarly designed, collected by Capt. Sir Edward Belcher, and his assistant-surgeon Mr. Hinds, during the voyage of the Sulphur.

Species 8. (Mus. Cuming.)

FISSURELLA NIGROPUNCTATA. *Fiss. testâ ovatâ, subconicâ, crassâ, radiatim costatâ, costis rudibus, inæqualibus, subacutis, margine basali acutè crenulato, orificio oblongo, lateribus coarctato; virescente-albâ, interruptè intensè anthracinâ.*

THE BLACK-DOTTED FISSURELLA. Shell ovate, somewhat conical, thick, radiately ribbed, ribs rude, uneven, rather sharp, basal margin sharply crenulated, orifice oblong, contracted at the sides; greenish-white, ribs painted in an interrupted manner with very dark coal-black.

SOWERBY, Pro. Zool. Soc., 1834. p. 125.

Hab. Gallapagos and Lobos Island, (under stones on the shore); Cuming.

The interior of the shell is also of a sea-green colour, and it is mostly eroded on the outside in the vicinity of the orifice.

Species 12. (Mus. Cuming.)

FISSURELLA VIRESCENS. *Fiss. testâ ovatâ, elevatiusculâ, radiatim costatâ, costis subinæqualibus, basin versus tumidiusculus, orificio latè oblongo, medio paululum coarctato; cærulescente-viridi, circa orificium albidâ, roseo sparsim tinctâ, intus virescente.*

THE GREENISH FISSURELLA. Shell ovate, rather elevated, radiately ribbed, ribs somewhat uneven, rather swollen towards the base, orifice broadly oblong, a little contracted in the middle; bluish-green, white around the orifice, sparingly pink-stained, interior greenish.

SOWERBY, Pro. Zool. Soc. 1834, p. 125.

Hab. Panama (in exposed situations on rocks at low water); Cuming.

The orifice is rather broad in this species, and characterised by a small denticular contraction on each side.

Species 22. (Mus. Cuming.)

FISSURELLA MAXIMA. *Fiss. testâ ovatâ, depressiusculâ, crassâ, radiatim liratâ, liris subnodosis, ætate subobsoletis, margine basali undulato, orificio rotundato-ovato; virescente-albâ aut fulvescente, purpureo-lacco conspicuè radiatâ.*

THE VERY LARGE FISSURELLA. Shell ovate, rather depressed, thick, radiately ridged, ridges slightly nodose, somewhat obsolete with age, basal margin undulated, orifice rotundately ovate; greenish-white or light fulvous, conspicuously rayed with purple-lake.

SOWERBY, Pro. Zool. Soc. 1834, p. 123.

Hab. Valparaiso (on exposed rocks and under stones at low water); Cuming.

In addition to the magnificent specimen here figured from Valparaiso, Mr. Cuming possesses one of smaller size from Cape Horn, in which the radiating ridges are more prominently developed and obscurely noduled.

Species 23. (Mus. Cuming.)

FISSURELLA BARBADENSIS. *Fiss. testâ oblongo-ovatâ, subconicâ, lateribus interdum subcompressâ, radiatim costatâ, costis inæqualibus, acutiusculis, squamoso-asperis, decem ad duodecim prominentioribus, orificio suborbiculari; lutescente-albâ, maculis irregularibus nigris radiatâ, interdum roseâ, intus virescente.*

THE BARBADOES FISSURELLA. Shell oblong-ovate, rather conical, sometimes a little compressed at the sides, radiately ribbed, ribs uneven, rather sharp, bristled with scales, ten to twelve ribs more prominent than

the rest, orifice nearly orbicular; yellowish-white, rayed with irregular black spots, sometimes pinkish, interior greenish.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vii. p. 595.
Patella Barbadensis, Gmelin.

Hab. West Indies.

This is the ordinary type of the species, which is extremely variable in colour, sometimes rose or purple.

Species 24. (Mus. Cuming.)

FISSURELLA NODOSA. *Fiss. testâ ovato-conicâ, lateribus subcompressâ, radiatim costatâ, costis squamato-nodosis, nodis conspicuis, valdè elevatis, orificio oblongo, latiusculo, medio coarctato; virescente-albâ.*

THE NODOSE FISSURELLA. Shell ovately conical, a little compressed at the sides, radiately ribbed, ribs squamately nodose, nodules conspicuous, very elevated, orifice oblong, contracted in the middle; greenish-white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vii. p. 593.
Patella nodosa, Born.
Patella spinosa, Gmelin.
Patella Jamaicensis, Gmelin.

Hab. West Indies.

Readily to be distinguished from all other species of the genus by its very prominent erect squamate nodules.

Species 25. (Mus. Cuming.)

FISSURELLA VIRIDULA. *Fiss. testâ ovatâ, subconicâ, anticè inclinatâ, costis subrudibus lirisque obsoletè nodulosis radiatâ, interstitiis in adolescentiâ cancellatis, orificio oblongo, medio coarctato, margine basali crenulato; viridi, costis albis, orificii limbo caruleo.*

THE GREEN FISSURELLA. Shell ovate, rather conical, inclined anteriorly, rayed with somewhat rude obscurely noduled ribs and ridges, insterstices in the young shell cancellated, orifice oblong, contracted in the middle, basal edge crenulated; green, ribs white, edge of the orifice blue.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vii. p. 596.
Testa juvenis. *Fissurella bicolor*, Adams.

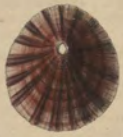
Hab. Nevis, West Indies (attached to stones); Power.

The sculpture of this species, which in the young state is noduled and finely cancellated, becomes nearly obliterated with age.

26. a.

26. b.

26. c.



26. d.

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G. B. S. del. et lith.

R. B. & R. imp.

FISSURELLA.

PLATE V.

Species 26. (Fig. *a, b, c, d,* Mus. Cuming.)

FISSURELLA PERUVIANA. *Fiss. testâ ovatâ, anticè attenuatâ, elevatiusculâ, interdum conicâ, radiatim liratâ, liris squamato-nodosis, interdum obsoletis, orificio ovato, pares; albidâ, aut viridè roseâ, aut purpureo-fuscescente, fusco vel purpureo-nigricante radiatâ, et circa orificium eximiè lentiginosâ.*

THE PERUVIAN FISSURELLA. Shell ovate, attenuated anteriorly, rather elevated, sometimes conical, radiately ridged, ridges squamately nodose, sometimes obsolete, orifice ovate, small; whitish or bright rose, or light purple brown, rayed with brown or purple-black, and delicately freckled around the orifice.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vii. p. 599. *Fissurella affinis*, Gray, Sowerby.

Fissurella subrotunda, Deshayes.

Hab. Lobos Island, Valparaiso and Iquiqui, Peru; Cuming.

So variable is this species in colouring it is almost in vain to describe it, yet there is a marked affinity of design in all the varieties, four of which are selected for illustration.

Species 27. (Mus. Cuming.)

FISSURELLA ALABASTRITES. *Fiss. testâ ovatâ, depressoconicâ, radiatim costatâ, costis inæqualibus, subæqualis, orificio oblongo, latiusculo, medio subcoarctato; albâ, lineâ intùs cæruleâ circa orificium intus extusque, orificii limbo virescente.*

THE ALABASTER FISSURELLA. Shell ovate, depressly conical, radiately ribbed, ribs uneven, rather large, orifice oblong, rather broad, slightly contracted in the middle; white, with a dark blue line around the orifice within and without, edge of the orifice greenish.

Hab. Cape de Verd Islands.

A pure white rudely ribbed shell, in which the orifice is large, and of a pale sea-green colour around the edge, bordered by a very deep indigo blue line.

Species 28. (Mus. Cuming.)

FISSURELLA GLAUCOPIS. *Fiss. testâ ovatâ, depressoconicâ, radiatim costatâ, costis subplanatis, obsoletè nodosis, liris paré internodiâ, orificio parvo, ovali; albâ, orificii limbo intùs cæruleo.*

THE OWL-EYED FISSURELLA. Shell ovate, depressed, conical, radiately ribbed, ribs rather flattened, obsoletely nodose, with a small intermediate ridge, orifice small, oval; white, edge of the orifice deep indigo blue.

Hab. Cape de Verd Islands.

The similarity between this and the preceding species, both from the same locality, is remarkable; yet they differ materially in the shape and size of the dorsal orifice, and Mr. Cuming possesses several specimens of both, without any intermediate modification of a character which appears to be always constant in the same species.

Species 29. (Mus. Cuming.)

FISSURELLA NIMBOSA. *Fiss. testâ ovatâ, elevatâ, declivi-conicâ, radiatim liratâ, liris inæqualibus, orificio oblongo, medio coarctato; virescente-albâ, nigricante-viridi radiatâ.*

THE RAINY FISSURELLA. Shell ovate, elevated, steeply conical, radiately ridged, ridges uneven, orifice oblong contracted in the middle; greenish-white, rayed with very dark green.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vii. p. 591. *Patella nimbosa*, Linnæus.

Hab. West Indies. Venezuela; Dyson.

The colouring of this species varies from brown to green.

Species 30. (Mus. Cuming.)

FISSURELLA ASPERA. *Fiss. testâ ovatâ, subconicâ, anticè inclinatâ, creberrimè radiatim costellatâ, costellis liris concentricis squamatis eximiè clathratis, orificio suborbiculari; fulveo-cinereâ, liris cinereo-nigris.*

THE ROUGH FISSURELLA. Shell ovate, somewhat conical, inclined anteriorly, very closely radiately ribbed, ribs delicately latticed with concentric squamate ridges, orifice nearly orbicular; light fulvous ash, ridges cinder-black.

SOWERBY, Pro. Zool. Soc., 1834. p. 127.

Hab. Pacosmayo, Peru.

Delicately sculptured, the transverse ridges passing over radiating ones in squamate festoons.

Species 31. (Mus. Cuming.)

Fissurella macrotrema. *Fiss. testâ ovatâ, interdum elevatiusculâ, radiatim striato-sulcatâ, orificio elongato-oblongo, medio coarctato; virescente, rufo, fusco, vel purpureo-nigro radiatâ, intus virescente.*

The long-slit Fissurella. Shell ovate, sometimes rather elevated, radiately striately grooved, orifice elongately oblong, contracted in the middle; greenish, rayed with red, brown, or purple black, interior pale green.

Sowerby, Pro. Zool. Soc., 1834. p. 125.

Hab. Gallapagos Islands; Cuming.

Exceedingly variable in colouring, but with always more or less of red and green.

Species 32. (Mus. Cuming.)

Fissurella coarctata. *Fiss. testâ ovatâ, antice attenuatâ, radiatim creberrimè striatâ, orificio oblongo, medio valdè coarctato; virescente-albâ, circa orificium lineis nigris creberrimè radiatâ.*

The contracted Fissurella. Shell ovate, attenuated anteriorly, radiately very closely striated, orifice oblong, very much contracted in the middle; greenish white, very closely rayed with black lines around the orifice.

King, Zoological Journ. vol. v. p. 339.

Hab. Benguela, West Africa.

The chief peculiarity of this species consists in the orifice being more than usually contracted on each side. The painting is also peculiar.

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FISSURELLA.

PLATE VI.

Species 33. (Mus. Cuming.)

FISSURELLA SCUTELLA. *Fiss. testâ trapeziformi-ovatâ, valdè depressâ, lateribus medio subcompressis, extremitatibus levatiusculis, concentricè elevato-striatâ, interstitiis incisis, orificio oblongo, subamplo; spadiceo-albâ, purpureo-fuscescente radiatâ.*

THE LITTLE FLATTER FISSURELLA. Shell trapeziformly ovate, very depressed, sides slightly compressed in the middle, extremities a little lifted, concentrically elevately striated, interstices engraved, orifice oblong, rather large; fawn white, rayed with light purple-brown.

GRAY, Brit. Mus., Sowerby, Cat. *Fissurella*, No. 42. Conch. Illus. f. 34.

Fissurella trapezina, Sowerby (Pro. Zool. Soc., 1834).

Hab. Raines' Island, Torres Straits; Ince.

A singular little broad flatted species with a rather large orifice.

Species 34. (Mus. Cuming.)

FISSURELLA SAGITTATA. *Fiss. testâ ovatâ, depressiusculâ, lateribus subcompressâ, radiatim sulcatâ, orificio oblongo, vividè rosaceo et albo radiatâ, radiis albis punctis nigricantibus sagittatis notatis.*

THE ARROW-MARKED FISSURELLA. Shell ovate, rather depressed, a little compressed at the sides, radiately grooved, orifice oblong; rayed with bright pink and white, the white rays being marked with blackish arrow-head dots.

Hab. Cape of Good Hope.

A pretty pink-rayed shell in which the uncoloured interstitial rays are marked with dark arrow-head spots.

Species 35. (Mus. Cuming.)

FISSURELLA DUBIA. *Fiss. testâ ovatâ, anticè attenuatâ, depressâ, radiatim costatâ, liris tenuibus concentricis numerosis fimbriatâ, orificio oblongo, latiusculo, medio coarctato; olivaceo-cinereo irregulariter tinctâ et radiatâ.*

THE DOUBTFUL FISSURELLA. Shell ovate, attenuated anteriorly, depressed, radiately ribbed, and frilled with numerous fine concentric ridges, orifice oblong, rather broad, contracted in the middle; irregularly stained and variegated with olive-ash.

Hab. Port Natal.

Very closely allied to *F. Natalensis*, but of much more depressed growth.

Species 36. (Mus. Cuming.)

FISSURELLA HIANTULA. *Fiss. testâ ovatâ, lateribus peculiariter compressâ, extremitatibus levatis, radiatim rugoso-liratâ, interstitiis subobsoletè cancellatis, orificio amplo, oblongo, latiusculo; albidâ, pallidè spadiceo tinctâ, cinereo-nigricante prope marginem subobscurè radiatâ.*

THE GAPING FISSURELLA. Shell ovate, peculiarly compressed at the sides with the extremities lifted up, radiately roughly ridged, interstices somewhat obsoletely cancellated, orifice large, oblong, rather broad; whitish, stained with light fawn colour, rather obscurely rayed near the margin with ashy-black.

LAMARCK, Anim. sansvert. (Deshayes' edit.) vol. vii. p. 597.

Fissurella Javanicensis, Sowerby (not of Lamarck.)

Hab. Cape of Good Hope; Hannah.

There can be little doubt, as suggested by M. Deshayes, that this species, which Mr. Sowerby assigns to Lamarck's *F. Javanicensis*, belongs to *F. hiantula* of the same author, and not that which is figured for it in the Conchological Illustrations.

Species 37. (Mus. Cuming.)

FISSURELLA NIGRA. *Fiss. testâ oblongo-ovatâ, anticè subattenuatâ, depressâ, lateribus subcompressâ, radiatim costatâ et liratâ, costis lirisque rugosis, subacutis, striis concentricis clathratis, orificio oblongo; purpureo-nigrâ, orificii limbo albo.*

THE BLACK FISSURELLA. Shell oblong-ovate, slightly attenuated anteriorly, depressed, a little compressed at the sides, radiately ribbed and ridged, ribs and ridges rugose, rather sharp, latticed with concentric striæ, orifice oblong; purple-black, edge of the orifice white.

PHILIPPI, Abbild. und Besch. *Fissurella*, pl. 2. f. 2.

Hab. Southern Chili.

The colouring becomes slightly mottled at the basal edge.

August, 1849.

Species 38. (Mus. Cuming.)

FISSURELLA GRISEA. *Fiss. testâ ovatâ, depressiusculâ, lævigatâ, lineis concentricis incrementi subirregularibus, orificio parviusculo, oblongo; cinereo-griseâ, basin versus violaceâ, obscurè radiatâ.*

THE GREY FISSURELLA. Shell ovate, rather depressed, smooth, concentric lines of growth somewhat irregular, orifice rather small, oblong, ash grey, violet towards the base, obscurely rayed.

Hab ——?

This species has no sculpture to characterise it, but the colouring is peculiar.

Species 39. (Mus. Cuming.)

FISSURELLA APERTA. *Fiss. testâ ovatâ, crassâ, depressiusculâ, concentricè crebrirugâ elevato-striatâ, interstitiis incisis, orificio ovato, peramplo; violaceo-cinerascente, violaceo-nigricante irregulariter radiatâ, basi albi-marginatâ.*

THE OPEN FISSURELLA. Shell ovate, thick, rather depressed, concentrically very closely elevately striated, interstices engraved, orifice ovate, very large; pale violet ash, rayed irregularly with violet-black, edged with white at the base.

SOWERBY, Tankerville Catalogue, App. p. vi. Conch. Illus. f. 10. (sub nom. *F. hiantula*).

Pupillæa aperta, Gray.

Fissurellidea megatrema, D'Orbigny.

Hab. Ensenada de Ros, Coast of Patagonia; D'Orbigny.

Notwithstanding that Lamarck refers to Born's vignette of this species for his *F. hiantula*, it is certainly distinct from that which served for his description. Lamarck's *F. hiantula* is the species which Mr. Sowerby assigns to *F. Juanaensis*, and is well characterised by the remark:—"etant posée sur son ouverture, elle ne s'appuie que sur ses deux cotés."

Mr. Sowerby's original view of this species appears to be the correct one; and his remark that "the depressed white margin is probably caused by the mantle of the animal overlapping the edge of the shell" is confirmed by M. D'Orbigny's figure, Voyage dans l'Amér. Mérid. Moll. pl. 63. showing that the animal is of very large size, with the shell only occupying a small portion of the back, into the flesh of which it is imbedded to the depth of the uncoloured edge.

Species 40. (Mus. Cuming.)

FISSURELLA MEXICANA. *Fiss. testâ oblongo-ovatâ, depressâ, lateribus compressiusculâ, radiatim sulcatâ, lirâ intermediâ incrementi lineis concentricis decussatis, orificio oblongo, latiusculo, medio subcontracto; purpureo-rufâ, subobscurè nigro radiatâ, aliâ circa orificium.*

THE MEXICAN FISSURELLA. Shell oblong ovate, depressed, a little compressed at the sides, radiately grooved, intermediate ridges decussated with concentric lines of increase, orifice oblong, rather broad, slightly contracted in the middle; purple red, somewhat obscurely rayed with black, white round the orifice.

SOWERBY, Conch. Illus. *Fissurella*, Cat. p. 8. no. 67. f. 61.

Hab. Real Llejos, Mexico; Cuming.

The orifice of this species is characterised externally by a very decided white border.

Species 41. (Mus. Cuming.)

FISSURELLA NIGRITA. *Fiss. testâ ovatâ, depressiusculâ, lateribus compressâ, extremitatibus levatâ, radiatim subtiliter liratâ, concentricè striatâ, orificio ovali, perampio; intensè cinereo-fuscâ, obscurè nigro radiatâ.*

THE DINGY FISSURELLA. Shell ovate, rather depressed, compressed at the sides, lifted at the extremities, radiately finely ridged, concentrically striated, orifice oval, very large; dark ash brown, obscurely black-rayed.

SOWERBY, Pro. Zool. Soc., 1834, p. 127.

Hab. ——?

Closely allied to *F. hiantula*, but the orifice is larger and not contracted at the sides.

Species 42. (Mus. Cuming.)

FISSURELLA PULVESCENS. *Fiss. testâ oblongo-ovatâ, anticè subattenuatâ, depressâ, subtilissimè radiatim et concentricè striatâ, orificio oblongo; viridi fuscâ, lacco pulcherrimo radiatâ.*

THE PULVOUS FISSURELLA. Shell oblong-ovate, slightly attenuated anteriorly, depressed, very finely radiately and concentrically striated, orifice oblong; bright yellow, beautifully rayed with lake.

SOWERBY, Pro. Zool. Soc., 1834, p. 127.

Hab. Valparaiso (under stones on the shore); Cuming.

From the bright yellow colouring of this shell, the rays have very much the appearance of sun-beams.

43. a.

43. b.

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G.B.S. del. et lith.

R. F. & P. imp.

FISSURELLA.

PLATE VII.

Species 43. (Fig. *a* and *b*, Mus. Cuming.)

FISSURELLA MUTABILIS. *Fiss. testâ ovatâ, anticè subattenuatâ, medio elevatâ, lateribus subcompressâ, radiatim impresso-striatis, striis concentricis decussatâ, orificio oblongo-ovato; cinereâ aut virescente, interdum rufo-radiatâ, radiâ vaicâ albicante plus minus obscurâ strisque notatâ.*

THE CHANGEABLE FISSURELLA. Shell ovate, somewhat attenuated anteriorly, elevated in the middle, a little compressed at the sides, radiately impressly striated, crossed with concentric strise, orifice oblong-ovate; ash-colour or greenish, sometimes rayed with pink, and marked on both sides with a more or loss obscure whitish ray.

SOWERBY, Pro. Zool. Soc., 1834, p. 126; Conch. Illus. f. 67, 70.

Hab. Cape of Good Hope.

Of rather compressed growth, variously coloured, but mostly characterized by a white ray on either side of the orifice.

Species 44. (Mus. Cuming.)

FISSURELLA MICROTREMA. *Fiss. testâ ovatâ, anticè subattenuatâ, depressiusculâ, rugosâ, radiatim tenuiliratâ, liris nonnullis subprominentibus, orificio minuto; fuscâ, maculis perpaucis albidis asperâ, liris purpureo-rufis, circa orificium nigricante-viridi, intus virescente.*

THE SMALL SLIT FISSURELLA. Shell ovate, somewhat attenuated anteriorly, rather depressed, rough, radiately thinly ridged, some of the ridges rather prominent, orifice minute; brown, sprinkled with a very few whitish spots, ridges purple-red, dark green around the orifice, interior greenish.

SOWERBY, Pro. Zool. Soc., 1834, p. 125; Conch. Illus. f. 50.

Hab. Real Llejos, Central America (under stones at low water); Cuming.

This species has little character to distinguish it beyond the smallness of the orifice.

Species 45. (Mus. Cuming.)

FISSURELLA JUKESII. *Fiss. testâ subquadrato-ovatâ, anticè inclinatâ, costis liriisque pulcherrimè squamatis radiatâ, interstitiis profundis, eximiè clathratis, orificio parvo, quadrato-ovato, margine basali bidentato; albicante, subpellucidâ, intus circa orificium nigricante-viridi.*

JUKES' FISSURELLA. Shell somewhat squarely ovate, inclined anteriorly, ribs and ridges very beautifully squamate, radiated, interstices deep, and delicately latticed, orifice small, squarely ovate, basal margin bidentate; whitish, somewhat transparent, very dark green around the orifice in the interior.

Hab. Coast of Australia.

The most beautifully sculptured shell I remember having seen, rayed with numerous ribs and ridges, surmounted with thickly-set vaulted scales, and so deeply carved in the interstices that the ground surface is quite thin and transparent.

Species 46. (Mus. Cuming.)

FISSURELLA OBSCURA. *Fiss. testâ ovatâ, medio depressiusculâ, radiatim costatâ et striatâ, costis latis, obtusis, distantibus, subcorrugatis, orificio oblongo, lateribus subcontracto; purpureo-rufescente, costis pallidè viridibus, circa orificium nigro tinctis, intus virescente.*

THE OBSCURE FISSURELLA. Shell ovate, slightly depressed in the middle, radiately ribbed and striated, ribs broad, obtuse, distant, somewhat corrugated, orifice oblong, a little contracted at the sides; purplish-red, ribs light green, stained with black around the orifice, interior greenish.

SOWERBY, Pro. Zool. Soc., 1834; Conch. Illus. f. 27.

Hab. Gallapagos Islands (under stones at low water); Cuming.

The ribs of this species are rather superficial, being little raised above the surface; they are rather distant from each other and have a swollen straggling appearance.

Species 47. (Mus. Cuming.)

FISSURELLA EDITITIA. *Fiss. testâ ovatâ, anticè subattenuatâ, radiatim costatâ, costis fortibus, irregularibus, breviquamatis, orificio parviusculo, rotundato-ovatâ; purpurascente-roseâ et albâ, intus virescente.*

THE SELECTED FISSURELLA. Shell ovate, somewhat attenuated anteriorly, radiately ribbed, ribs strong, irregular, shortly scaled, orifice rather small, rotundately ovate; purple-rose and white, interior greenish.

Hab. —— ?

Rayed with strong rugose ribs, sculptured with irregular blunted scales.

Species 48. (Mus. Cuming.)

FISSURELLA HONDURASENSIS. *Fiss. testâ oblongo-ovatâ, depressiusculâ, anticè vix attenuatâ, radiatim superficialiter costatâ, costis obtusè squamato-corrugatis, orificio oblongo-ovato; lutescente-albâ, rufo pallidè radiatâ, circa orificium olivaceâ et nigripunctatâ.*

THE HONDURAS FISSURELLA. Shell oblong-ovate, rather depressed, but little attenuated anteriorly, radiately superficially ribbed, ribs obtusely squamately wrinkled, orifice oblong-ovate; yellowish-white, rather faintly rayed with red, olive and black dotted around the orifice.

Hab. Honduras; Dyson.

This species is distinguished by the superficial wrinkled character of the spreading ribs, and the dark olive and black dotted marking around the orifice.

Species 49. (Mus. Cuming.)

FISSURELLA PICA. *Fiss. testâ oblongo-ovatâ, anticè inclinatâ, medio levatâ, radiatim tenuiliratâ, liris striis tenuibus corrugatis concentricis undique eximiè decussatis, orificio antico, parvo, rotundato-ovato; cinereo-nigrâ, albo marmoratâ.*

THE MAGPIE FISSURELLA. Shell oblong-ovate, inclined anteriorly, lifted in the middle, radiately finely ridged, ridges delicately crossed throughout with fine wrinkled concentric striæ, orifice anterior, small, rotundately ovate; ash-black, marbled with white.

SOWERBY, Pro. Zool. Soc., 1834, p. 126; Conch. Illus. f. 32, 33.

Hab. St. Elena, West Columbia (on dead shells at a depth of from six to eight fathoms); Cuming.

Very delicately sculptured, and marked with dark rusty black and white.

Species 50. (Mus. Cuming.)

FISSURELLA INÆQUALIS. *Fiss. testâ oblongo-ovatâ, anticè attenuatâ et multò inclinatâ, medio elevatâ, lateribus subcompressis, radiatim tenuiliratâ, striis concentricis subtiliter elathratâ, orificio parviusculo, oblongo, medio leviter contracto; nigricante, circa orificium cinereo-albicante.*

THE UNEQUAL FISSURELLA. Shell oblong-ovate, attenuated and much inclined anteriorly, raised in the middle, slightly compressed at the sides, radiately thinly ridged, finely latticed with concentric striæ, orifice rather small, oblong, a little contracted in the middle; rusty black, ash-white around the orifice.

SOWERBY, Pro. Zool. Soc., 1834, p. 126; Conch. Illus. f. 45.

Hab. Gallapagos Islands (under stones at low water); Cuming.

The sculpture of this species approaches that of the preceding in character, except in that the concentric striæ have not the same wrinkled appearance.

Species 51. (Mus. Cuming.)

FISSURELLA CANCELLATA. *Fiss. testâ ovatâ, depressiusculâ, radiatim costatâ, costis parviusculis, numerosis, striis concentricis, costas super nodosis, undique cancellatâ, orificio rotundato-ovato, latiusculo; fuscescente-albâ, punctis nigricantibus tessellatim radiatâ, orificio cæruleo marginato.*

THE CANCELLED FISSURELLA. Shell ovate, rather depressed, radiately ribbed, ribs rather small, numerous, cancellated throughout with concentric striæ, which are nodulous upon the ribs, orifice rotundately ovate, rather broad; brownish white, rayed in a tessellated manner with rusty black, orifice edged with blue.

SOWERBY, Tankerville Catalogue, No. 802; Conch. Illus. f. 29.

Patella cancellata, Solander.

Foraminella Sowerbii, Guilding.

Lucapina elegans, Gray.

Hab. St. Vincent's, West Indies; Guilding. Honduras; Dyson.

Frequently of a delicate flesh-tinge, and always more or less strongly characterized by the blue colouring of the border of the orifice.

52. a.

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52. b.

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58.

59. c.

59. b.

FISSURELLA.

PLATE VIII.

Species 52. (Fig. *a* and *b*, Mus. Cuming.)

FISSURELLA PUSTULA. *Fiss. testâ rotundato-ellipticâ, plano-depressâ, anticè subtruncatâ, radiatim obtusè costellatâ, costellis striis concentricis elevatiusculis decussatis; orificio subanticо, oblongo, angusto, lateribus medio excavatis; pallidè stramineâ, circa orificium roseâ, interdum roseo radiatâ.*

THE PUSTULE FISSURELLA. Shell rotundately elliptic, flatly depressed, slightly truncated anteriorly, radiately obtusely ribbed, ribs decussated with slightly raised concentric striæ; orifice somewhat anterior, oblong, narrow, sides excavated in the middle; pale straw-colour, pink round the orifice, sometimes rayed with pink.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vii. p. 597.

Patella pustula, Linnæus.

Hab. West Indies; Gosse.

A peculiarly broad depressed species, faintly ribbed and very delicately coloured.

Species 53. (Mus. Cuming.)

FISSURELLA OBTUSA. *Fiss. testâ ovatâ, medio elevatiusculâ, radiatim corrugato-costatis, costis irregularibus, interstitiis subimpressis, aperturâ parviusculâ, oblongâ, lateribus subexcavatis; roseo et albo radiatâ, radiis albis angustis, conspicuis, radiis roseeis latioribus, prope basin virescentibus.*

THE OBTUSE FISSURELLA. Shell ovate, rather elevated in the middle, radiately ribbed in a somewhat wrinkled manner, ribs irregular, interstices slightly impressed, aperture rather small, oblong, with the sides excavated; rayed with pink and white, white rays narrow, conspicuous, pink rays broader, fading into light green near the margin.

SOWERBY, Conch. Illus. Cat. *Fiss.* p. 7. f. 59.

Hab. Cape of Good Hope; Humphrey.

The pink colouring which forms the radiating bands of this species, appears only in the grooves of the sculpture, and has the appearance of fine lines.

Species 54. (Mus. Cuming.)

FISSURELLA RUPPELLII. *Fiss. testâ ovatâ, medio valdè elevatâ, anticè inclinatâ, radiatim costatâ, costis rotundatis, alternatim majoribus, interstitiis peculiariter et conspicuè clathratis, orificio parvo, antico, quadrato-oblongo; fusceseente-rufâ, versus orificium albâ, radiis ad octo intensè nigris ornatâ.*

RUPPELL'S FISSURELLA. Shell ovate, much raised in the middle and inclined anteriorly, radiately ribbed, ribs rounded, alternately larger, interstices peculiarly and conspicuously latticed, orifice small, anterior, squarely oblong; brownish red, white towards the orifice, ornamented with about eight intensely black rays.

SOWERBY, Pro. Zool. Soc. 1834, p. 128.

Hab. Red Sea; Ruppell.

A very elaborately sculptured and characteristic species.

Species 55. (Mus. Cuming.)

FISSURELLA ÆQUALIS. *Fiss. testâ oblongo-ovatâ, tenuiculâ, depressâ, striis concentricis et radiantibus, obtusis, distantibus, decussatâ, orificio ovato, subamplo; cinereo-nigricante, albiradiatâ.*

THE EQUAL FISSURELLA. Shell oblong-ovate, rather thin, depressed, decussated with distant obtuse radiating and concentric striæ, orifice ovate, rather large; ashy black, rayed with white.

SOWERBY, Pro. Zool. Soc. 1834, p. 127.

Hab. St. Elena, West Columbia (on dead shells at a depth of from six to ten fathoms); Cuming.

Unusually thin and depressed, with a rather large orifice.

Species 56. (Mus. Cuming.)

FISSURELLA RUGOSA. *Fiss. testâ suboblongo-ovatâ, anticè attenuatâ, depressâ, costis octo tunidis rugosis radiatâ, interstitiis rugoso-liratis et striatis, margine basali sinuato et dentato, orificio parviusculo, oblongo-ovato; fuscâ et virescente, roseo hic illic punctatâ, costis hic illic albicantibus, intus virescente.*

THE ROUGH FISSURELLA. Shell somewhat oblong-ovate, attenuated anteriorly, depressed, rayed with eight rough swollen ribs, interstices roughly ridged and striated, basal margin sinuated and dentated; brown and greenish, here and there pink-dotted, ribs here and there whitish, interior pale green.

SOWERBY, Conch. Illus. Cat. *Fiss.* p. 8. f. 54.

Hab. Gallapagos Islands (under stones at low water); Cuming.

This shell is of very depressed growth, the sculpture having an exaggerated rough and swollen appearance.

Species 57. (Mus. Belcher.)

Fissurella clathrata. *Fiss. testâ ovatâ, medio gradatim conico-acuminatâ, radiatim costatâ, costis rotundatis, lirâ intervenientè, liris concentricis costas super nodosis fortiter clathratis, margine basali dentato, dentibus binis, orificio parvisculo, orbiculari; albidâ, virescente-olivaceo obscurè radiatâ, colore basin versus saturatiore.*

The latticed Fissurella. Shell ovate, gradually conically acuminated in the middle, radiately ribbed, ribs rounded, with a ridge running between them, strongly latticed with concentric ridges which are nodulous upon the ribs, basal margin toothed, teeth in pairs, orifice rather small, orbicular, whitish, obscurely rayed with greenish olive, the colour being darker towards the base.

Hab. China Seas.

This elaborately carved species is remarkable for its high conical form, of which the rounded orifice is the summit.

Species 58. (Mus. Cuming.)

Fissurella asperella. *Fiss. testâ ovatâ, anticè subattenuatâ, depressiusculâ, radiatim striatâ et obsoletè costatâ, punctis elevatis undique asperatâ, orificio oblongo-ovato; olivaceo rubroque variâ, anticè albi-radiatâ.*

The rough Fissurella. Shell ovate, somewhat attenuated anteriorly, rather depressed, radiately striated and obsoletely ribbed, roughened throughout with raised dots, orifice oblong-ovate; variegated with olive and red, rayed anteriorly with white.

Sowerby, Pro. Zool. Soc. 1834, p. 127. Conch. Illus. f. 71.

Hab. Lobos Island, Peru; Cuming.

Distinguished by a finely roughened surface.

Species 59. (Fig. *a* and *b*, Mus. Cuming.)

Fissurella fascicularis. *Fiss. testâ ovatâ, superè subattenuatâ, depressiusculâ, lateribus compressis, radiatim costatâ, costis æqualibus, rotundatis, nodulosis, prope marginem obsoletè squamatis, orificio oblongo, lateribus medio excavatis; virescente, olivaceo fasciatâ, interdum albicante, costis viridi rubris.*

The fasciculated Fissurella. Shell ovate, slightly attenuated anteriorly, rather depressed, compressed at the sides, radiately ribbed, ribs equal, rounded, nodulous, obsoletely squamate near the margin, orifice oblong, sides excavated in the middle; greenish, banded with olive, sometimes whitish, with the ribs very deep red.

Lamarck, Anim. sans vert. (Deshayes' edit.) vol. vii. p. 598.

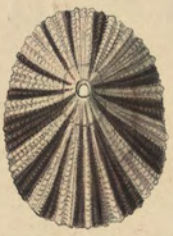
Hab. West Indies.

This species is very closely allied to the *F. pustula*, from the same locality, and they are the only two at present known of that particular type.

60. a.

60. b

61.



62.

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65.

Sowerby, Sol et lith.

Frederic Reeve, imp.

FISSURELLA.

PLATE IX.

Species 60. (Fig. *a*, *b*, Mus. Cuming.)

FISSURELLA COMPRESSA. *Fiss. testâ oblongo-ovatâ, anticè attenuatâ, elevatiusculâ, lateribus subcompressâ, radiatim squamato-liratâ, liris uniuribus subrudibus in interstitiis, orificio ovali, parviusculo; carneo-rufescente aut caruleo-viridi, vix radiatâ.*

THE COMPRESSED FISSURELLA. Shell oblong-ovate, attenuated anteriorly, rather elevated, slightly compressed at the sides, radiately squamately ridged, with smaller rather rude ridges in the interstices, orifice oval, rather small; light flesh-red or blue-green, scarcely rayed.

Hab. ——?

The two specimens figured in the accompanying plate are differently coloured, but marked by a peculiarity of form and sculpture, in which they exactly agree.

Species 61. (Mus. Cuming.)

FISSURELLA OLIVACEA. *Fiss. testâ ovatâ, anticè vix attenuatâ, subconicâ, radiatim subirregulariter rugoso-liratâ, liris obsoletè nodosis, orificio oblongo-ovato, medio subcontracto; albidâ, olivaceo nitidè radiatâ.*

THE OLIVE FISSURELLA. Shell ovate, scarcely attenuated anteriorly, rather conical, radiately somewhat irregularly roughly ridged, ridges obsoletely nodose, orifice oblong-ovate, slightly contracted in the middle; whitish, neatly rayed with olive.

GRAY, Sowerby, Conch. Illus. *Fiss.* Cat. p. 5. f. 57.

Hab.

The olive rays are characteristic and well defined.

Species 62. (Mus. Belcher.)

FISSURELLA LINCOLNI. *Fiss. testâ ovatâ, medio subconicâ, vertice anticè leviter inclinato, liris radiantibus compressis angustis, alternatim majoribus, lirisque concentricis elegantèr clathratâ, orificio subrotundo; albâ, cinereo-purpureo irregulariter radiatâ.*

LINCOLN'S FISSURELLA. Shell ovate, rather conical in the middle, top slightly inclined anteriorly, elegantly latticed with narrow compressed radiating ridges, which are alternately larger, orifice nearly round; white, rayed irregularly with ash-purple.

GRAY, Sowerby, Conch. Illus. *Fiss.* Cat. p. 7. f. 14.

Hab. Monterey, California.

This interesting species, named by Mr. Gray after the late Mr. Lincoln, from a specimen in that gentleman's cabinet, was collected by Capt. Sir E. Belcher during the voyage of H.M.S. Sulphur.

Species 63. (Mus. Cuming.)

FISSURELLA FUMATA. *Fiss. testâ ovatâ, anticè subattenuatâ, elevatiusculâ, lateribus subcompressâ, radiatim tenuicostatâ, costis numerosis, subsquamatis, confertis, margine subacutè denticulatis, vertice anticè leviter inclinato, orificio oblongo-ovato, medio contracto; albidâ, olivaceo-cinereo radiatâ, circa orificium caerulescente.*

THE SMOKED FISSURELLA. Shell ovate, slightly attenuated anteriorly, rather elevated, a little compressed at the sides, radiately finely ribbed, ribs numerous, subsquamate, close-set, rather sharply denticulated at the margin, top slightly inclined anteriorly, orifice oblong-ovate, contracted in the middle; whitish, rayed with olive-ash, bluish around the orifice.

Hab. ——?

The bluish colouring around the orifice of this species is characteristic.

Species 64. (Mus. Cuming.)

FISSURELLA DENSICLATHRATA. *Fiss. testâ ovatâ, medio elevatâ et anticè inclinatâ, liris concentricis et radiatibus undique densè clathratâ, orificio subrotundo; albidâ aut flavicante, olivaceo radiatâ.*

THE THICKLY-LATTICED FISSURELLA. Shell ovate, elevated and inclined anteriorly in the middle, thickly latticed throughout with radiating and concentric ridges, orifice nearly round; whitish or yellowish, rayed with olive.

Hab. ——?

A very closely latticed species, raised and inclined anteriorly in the middle.

Species 65. (Mus. Cuming.)

FISSURELLA FUNICULATA. *Fiss. testâ ovatâ, anticè attenuatâ, elevato-conicâ, vertice anticè inclinatâ, liris*

obtusis concentricis et radiantibus undique creberrimè gemmato-cancellatâ, orificio subrotundo ; albidâ, ferrugineo-olivaceo pallidè radiatâ, funiculis fusco-olivaceo articulatis hic illic radiatâ.

The corded Fissurella. Shell ovate, attenuated anteriorly, elevately conical, inclined anteriorly at the top, very closely gemmately cancellated throughout with obtuse radiating and concentric lines, orifice nearly round; whitish, rayed with faint olive-rust, and here and there with cords articulated with olive-brown.

Hab. Kurrachee, Mouth of the Indus.

The sculpture of this species is finely carved, and the colouring is remarkable for the dark articulated cords which radiate from the orifice.

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69. a.

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69. b.

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Sowerby, del. et lith.

Frederic Reeve, imp.

FISSURELLA.

PLATE X.

Species 66. (Mus. Cuming.)

FISSURELLA BALANOIDES. *Fiss. testâ ovatâ, anticè subattenuatâ, subconicâ, lævigatâ, radiatim leviter sulcatâ, orificio oblongo-ovato, medio subcontracto; flavicante, roseo interdum tinctâ, olivaceo et intensè viridi radiatâ, radiis lineis interstitioribus notatis, virescente-albâ circa orificium.*

THE BALANUS-LIKE FISSURELLA. Shell ovate, a little attenuated anteriorly, rather conical, smooth, radiately slightly grooved, orifice oblong-ovate, a little contracted in the middle; yellowish, sometimes faintly tinged with rose, rayed with olive and dark green, rays marked with lines of the colour darker, greenish-white around the orifice.

Hab. —— ?

The painting of this species somewhat resembles that of *F. nimbosa*.

Species 67. (Mus. Cuming.)

FISSURELLA INDUSICA. *Fiss. testâ ovatâ, elevatiusculâ, subconicâ, vertice anticè inclinato, liris radiantibus irregularibus et concentricis undique subobtusè clathratâ, orificio oblongo, medio leviter contracto; virescente-albâ, olivaceo-viridi radiatâ.*

THE INDUS FISSURELLA. Shell ovate, rather elevated, subconical, with the top inclined anteriorly, rather obtusely latticed throughout with concentric and irregular radiating ridges, orifice oblong, slightly contracted in the middle; greenish-white, rayed with olive-green.

Hab. Kurrachee, Mouth of the Indus.

Very similar to the following well-known species of our own shores in form, sculpture, and colouring.

Species 68. (Mus. Metcalfe.)

FISSURELLA RETICULATA. *Fiss. testâ ovatâ, subconicâ, medio levatiusculâ, vertice anticè inclinato, radiatim liratâ, liris angustis, alternatim majoribus, lineis concentricis lamelliformibus, plus minus distantibus, squamato-reticulatis, orificio ovali, ætate rotundato; virescente aut squalidè albâ, olivaceo-viridi hic illic obscurè radiatâ.*

THE RETICULATED FISSURELLA. Shell ovate, subconical, slightly lifted in the middle, top inclined anteriorly, radiately ridged, ridges narrow, alternately larger, reticulated with more or less distant concentric lamelliform lines, orifice oval, rounded with age; greenish or dirty white, obscurely rayed here and there with olive-green.

Patella Græca, Pennant, Brit. Zool. ed. 4, vol. iv. p. 144, pl. 89, f. 153.
Patella reticulata, Donovan.
Fissurella reticulata, Recluz.
Fissurella cancellata, Gray.
Fissurella Europæa, Sowerby.
Eadem. *Fissurella aperturæ*, Montagu.
Sipho radiata, Brown.

Hab. Britain and the Mediterranean.

So many species have been confounded together under the common appellation of *Fissurella Græca*, that it is necessary the name should disappear from the nomenclature. D'Orbigny enumerates three species, from Peru, Patagonia, and the West Indies, the last-named being the *F. Græca* of Lamarck, and the preceding species shows how distinctly this type is represented in the East.

Species 69. (Fig. *a*, Mus. Metcalfe. Fig. *b*, Mus. Cuming.)

FISSURELLA INCII. *Fiss. testâ oblongo-ovatâ, tenuiculâ; medio subconicâ, anticè inclinatâ, radiatim costatâ, costis alternatim majoribus, lineis concentricis lamelliformibus undique nitidè tenuiclathratis, orificio rotundato-ovali; albâ, costis majoribus spadiceis, interstitiis interdum nigripunctatis.*

INCE'S FISSURELLA. Shell oblong-ovate, rather thin, somewhat conical in the middle, and inclined anteriorly, radiately ribbed, ribs alternately larger, neatly and finely latticed throughout with concentric lamelliform lines, orifice rotundately oval; white, the larger ribs fawn-coloured, interstices between the ribs sometimes black-dotted.

Hab. Raine's Island, North Australia; Ince.

The fawn-coloured ribs, which radiate from the orifice at about equal distances, are very characteristic in this species.

Species 70. (Mus. Cuming.)

FISSURELLA HONDURASENSIS. *Fiss. testâ oblongo-ovali, subdepresso-convexâ, radiatim costatâ, costis numerosis, confertis, æqualibus, lineis concentricis subobtusis nodoso-cancellatis, orificio ovali, amplo, anticè inclinato, lateribus leviter contracto; rosaceo-albicante, versus marginem cinereo-fuscescente tinctâ, pone orificium subcœruleâ.*

THE HONDURAS FISSURELLA. Shell oblong-oval, rather depressly convex, radiately ribbed, ribs numerous, close-set, equal, nodosely cancellated with rather obtuse concentric lines, orifice oval, large, inclined anteriorly, slightly contracted at the sides; pinkish-white, light ash-brown towards the margin, bluish behind the orifice.

Hab. Honduras; Dyson.

Of a delicate flesh-pink white, with the ribs equal, not varying alternately, and finely nodose, where crossed by the concentric lines.

In *F. Listeri*, and other species, distinguished by blue colouring around the orifice, the colour mostly prevails in front, in this it is situated posteriorly.

Species 71. (Mus. Cuming.)

FISSURELLA LISTERI. *Fiss. testâ subquadrato-ovatâ, depressiusculâ, costis concentricis et radiantibus fortiter nodoso-clathratâ, interstitiis profundè excavatis, orificio oblongo, subamplo, anticè inclinato; virescente-albâ, intensè viridi plus minusve tinctâ et variegatâ, circa orificium cœrulescente.*

LISTER'S FISSURELLA. Shell somewhat squarely ovate, rather depressed, strongly nodosely latticed with concentric and radiating ribs, the interspaces being deeply excavated, orifice oblong, rather large, inclined anteriorly; greenish-white, more or less stained and variegated with dark green, bluish around the orifice.

D'ORBIGNY, Voy. dans l'Amér. Mérid. Moll. p. 476. *Fissurella Græca*, Lamarck.

Hab. West Indies.

Named anew by D'Orbigny, for the reasons given under the head of *F. reticulata*, from which it differs principally in having the sculpture so much more strongly latticed, and nodose, rather than squamate, at the point of crossing.

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Sowerby, del. et lith.

Frederic Reeve imp.

FISSURELLA.

PLATE XI.

Species 72. (Mus. Cuming.)

FISSURELLA ÆGIS. *Fiss. testâ oblongâ, depressâ, parum elevatâ, liris radiantibus subæqualibus numerosis confertis, lineisque concentricis nitidè squamato-cancellatâ, orificio oblongo, subamplo, anticè inclinato; albâ, virescente-olivaceo subobscurè latiradiatâ.*

THE ÆGIS FISSURELLA. Shell oblong, depressed, but little raised, neatly squamately cancellated with numerous close-set nearly equal ridges and concentric lines, orifice oblong, rather large, inclined anteriorly; white, rather obscurely broadly rayed with greenish-olive.

Hab. —— ?

A beautifully-sculptured species, having very much the form of a *Parmophorus*.

Species 73. (Mus. Cuming.)

FISSURELLA ATRATA. *Fiss. testâ ovatâ, anticè attenuatâ, depresso-planâ, medio elevatiusculâ, obsoletè liriradiatâ, liris marginem versus obscurè nodulosis, orificio oblongo, lateribus subcontractis; intensè purpureo-atrâ, cum orificium albâ, atro radiatâ, margine interno latè purpureo-atro.*

THE INKY FISSURELLA. Shell ovate, attenuated anteriorly, depressly flattened, slightly raised in the middle, obsolelely rayed with ridges, which are obscurely nodulous towards the margin, orifice oblong, slightly contracted at the sides; deep purple-black, white, rayed with black around the orifice, internal margin broadly purple-black.

Hab. —— ?

Belonging to the Peruvian type with broad inner margin, *F. latimarginata*, *Bridgesii*, &c., but specifically distinct.

Species 74. (Mus. Cuming.)

FISSURELLA EXQUISITA. *Fiss. testâ ovatâ, anticè vix attenuatâ, tenui, depressiusculâ, medio elevatâ, radiatim crebriliratâ, liris subirregularibus, corrugatis, obscurè nodulosis, orificio peramplo, lateribus contracto; flavescente-albâ, purpureo-nigricante conspicuè et regulariter raliatâ, margine interno tessellato.*

THE EXQUISITE FISSURELLA. Shell ovate, scarcely attenuated anteriorly, thin, rather depressed, raised in the middle, radiately closely ridged, ridges somewhat irregular, corrugate, obscurely nodulous, orifice very large, contracted at the sides; yellowish-white, conspicuously regularly rayed with purple-black, internal margin tessellated.

Hab. Strait of Magalhaens.

A very characteristic species, in which the orifice of true key-hole form is unusually large.

Species 75. (Mus. Metcalfe.)

FISSURELLA METCALFII. *Fiss. testâ oblongo-ovatâ, depressiusculâ, medio levatâ, radiatim liratâ, liris numerosis confertis, subangulatis, striis concentricis undique creberrimè decussatis, orificio oblongo-ovato, medio subexcavato, anticè inclinato, margine denticulato, denticulis hic illic bifidis; virescente-albâ, olivaceo interruptè latiradiatâ.*

METCALFE'S FISSURELLA. Shell oblong-ovate, rather depressed, raised in the middle, radiately ridged, ridges numerous, close-set, slightly angled, very closely decussated throughout with concentric striæ, orifice oblong-ovate, slightly excavated in the middle, inclined anteriorly, margin denticulated, denticles here and there bifid; greenish-white, interruptedly broadly rayed with olive.

Hab. —— ?

The ridges, which are very numerous and close-set, are slightly angular, and very closely festooned throughout with concentric striæ.

Species 76. (Mus. Cuming.)

FISSURELLA CLYPEUS. *Fiss. testâ ovatâ, crassiusculâ, depressâ, obscurè radiatim liratâ, liris distantibus, obsoletè muricato-nodosis, orificio oblongo-ovato, parviusculo; albidâ, nebulato-nigro peculiariter reticulato-radiatâ, margine interno tessellato.*

THE SHIELD FISSURELLA. Shell ovate, rather thick, depressed, obscurely radiately ridged, ridges distant, obsoletely prickly nodose, orifice oblong-ovate, rather small; whitish, peculiarly rayed in a reticulated manner with burnt-black, internal margin tesselated.

Sowerby, Pro. Zool. Soc. 1834, p. 128.
Hab. St. Elena, West Columbia; Cuming.

Mr. Cuming only collected a single specimen of this very characteristic species, and it still remains unique in his cabinet.

Species 77. (Mus. Cuming.)

Fissurella galericulum. *Fiss. testâ ovatâ, anticè valdè attenuatâ, crassiusculâ, lateribus compressâ, radiatim multistriatâ, orificio oblongo, subamplo, lateribus medio leviter excavatis; intensè rufo-purpureâ, utringue orificium albiradiatâ, margine interno latiusculo, rufo-purpureo.*

The bonnet Fissurella. Shell ovate, very much attenuated anteriorly, rather thick, compressed at the sides, radiately many-striated, orifice oblong, rather large, sides slightly excavated in the middle; deep red-purple, white-rayed on each side of the orifice, internal margin rather broad, red-purple.

Hab. —— ?

Distinguished by its attenuately compressed form, and deep crimson-purple colouring.

Species 78. (Mus. Cuming.)

Fissurella salebrosa. *Fiss. testâ suborbiculari-ovatâ, depressâ, radiatim rudè costatâ, costis subæqualibus, lamiuis concentricis undique conspicuè fimbriato-squamatis, orificio rotundato; albidâ, fusco hic illic tinctâ et lineari-notatâ.*

The rugged Fissurella. Shell somewhat orbicularly ovate, depressed, radiately rudely ribbed, ribs nearly equal, conspicuously fimbriately squamate throughout with concentric laminæ, orifice rounded; whitish, stained and linearly marked here and there with brown.

Hab. Kurrachee, Mouth of the Indus.

The ribs of this species are surmounted throughout with rough erect furbelowed scales.

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Sowerby, del. et lith. Frederic Reeve, imp.

FISSURELLA.

PLATE XII.

Species 79. (Mus. Cuming.)

FISSURELLA ROTA. *Fiss. testâ ovatâ, depressiusculâ, radiatim obscurè obtusè lirâtâ, liris sulcis concentricis decussatis, orificio elongato-oblongo, lateribus subcontractis; olivaceo-fuscâ, conspicuè albiradiatâ, radiis prope margines fusco-punctatis, circa orificium roseâ.*

THE WHEEL FISSURELLA. Shell ovate, rather depressed, radiately obscurely obtusely ridged, ridges decussated with concentric grooves, orifice elongately oblong, a little contracted at the sides; olive-brown, conspicuously white-rayed, rays blotched near the margin with brown, pink round the orifice.

Hab. Cape of Good Hope.

The white rays have a raised appearance in this species and are very characteristic.

Species 80. (Mus. Cuming.)

FISSURELLA STELLATA. *Fiss. testâ ovatâ, depressâ, medio elevatiusculâ, obscurè liriradiatâ, liris obsoletè nodulosis, orificio oblongo, subangusto, lateribus medio excavatis; albidâ, rufescente radiatâ, radiis nigricante-purpureo maculatis, margine interno latè tessellato.*

THE STARRED FISSURELLA. Shell ovate, depressed, rather elevated in the middle, obscurely rayed with ridges, which are obsoletely nodulous, orifice oblong, rather narrow, sides excavated in the middle; whitish, rayed with light red, the rays being blotched with blackish purple, internal margin broadly tessellated.

Hab. Valparaiso (attached to dead shells at a depth of from six to twelve fathoms); Cuming.

A very prettily rayed species, distinguished internally by the broad tessellated painting of the margin.

Fig. 81. (Mus. Cuming.)

The shell here represented proves to be a smooth variety of *F. rota* described above, and is from the same locality.

For Sp. 81 see Pl. XV.

Species 82. (Mus. Cuming.)

FISSURELLA CAYENNENSIS. *Fiss. testâ ovatâ, convexo-conicâ, lateribus subcompressâ, radiatim multilirâtâ, liris tenuibus, striis concentricis numerosis decussatis, margine subtiliter crenulato, orificio oblongo, lateribus medio excavatis, anticè inclinato; albidâ, fusco variegatâ, circa orificium caerulescente.*

THE CAYENNE FISSURELLA. Shell ovate, convexly conical, rather compressed at the sides, radiately many-ridged, ridges fine, decussated with numerous concentric striæ, finely crenulated at the margin, orifice oblong, sides excavated in the middle, inclined anteriorly; whitish, variegated with brown, bluish around the orifice.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vii. p. 594.

Hab. Cayenne, Guiana.

The close-set radiating ridges, which form at their extremity the finely crenulated margin, are about eighty in number.

Species 83. (Mus. Cuming.)

FISSURELLA CRENIFERA. *Fiss. testâ oblongo-ovatâ, depressâ, radiatim costatâ et striatâ, costis muricato-nodosis, striis concentricis obsoletè squamato-decussatis, margine vix crenulato, orificio elongato-oblongo, lateribus medio excavatis; albo et fusco-rufo latè radiatâ.*

THE CRENULATED FISSURELLA. Shell oblong-ovate, depressed, radiately ribbed and striated, ribs muricately nodose, obsoletely squamately decussated with concentric striæ, margin scarcely crenulated, orifice elongately oblong, sides excavated in the middle; broadly rayed with white and brown-red.

SOWERBY, Pro. Zool. Soc. 1834, p. 128.

Hab. Real Llejo, Central America.

This species is not sufficiently crenulated to be entitled to the specific name which has been applied to it.

Species 84. (Mus. Cuming.)

FISSURELLA ALTERNATA. *Fiss. testâ oblongo-ovatâ, subquadratâ, elevatâ, lateribus subcompressâ, radiatim costatâ, costis angustis, liris tribus parvisculis in interstitiis, laminis numerosis fimbriatis concentricis undique squamato-decussatâ, orificio subquadrato-oblongo, anticè inclinato, lateribus medio excavatis; albidâ, cinereo-olivaceo pallidè maculatâ et radiatâ, ante orificium caerulescente.*

THE ALTERNATE FISSURELLA. Shell oblong-ovate, subquadrate, raised, a little compressed at the sides, radiately ribbed, ribs narrow, with three rather small ridges in the interstices, squamately decussated throughout with numerous concentric furbelowed laminæ, orifice subquadrately oblong, inclined anteriorly, sides excavated in the middle; whitish, faintly spotted and rayed with ash-olive, bluish in front of the orifice.

SAY, Gould, MS.

Hab. ——?

The ribs of this species are rendered prickly by the delicate squamate growth of the concentric furbelowed laminæ.

Species 85. (Mus. Cuming.)

FISSURELLA HUMPHREYI. *Fiss. testâ ovatâ, crassiusculâ, valdè conicâ, Balaniformi, radiatim fortiter costatâ, costis nodosis et corrugatis, circa orificium alternatim evanidis, orificio oblongo-ovato, subamplo, medio contracto; albâ.*

HUMPHREY'S FISSURELLA. Shell ovate, rather thick, very conical, Balanus-shaped, radiately strongly ribbed, ribs nodose and corrugate, fading alternately around the orifice, which is oblong-ovate, rather large, and contracted in the middle; white.

Hab. Cape de Verd Islands.

Belonging to the same type as *F. glaucopis* and *alabastrites* from the same locality, but remarkably distinguished specifically by its elevated conical form. I dedicate this species to the memory of the late Mr. Humphrey, in remembrance of an admirable figure of it drawn and published by him in his 'Conchology, or Natural History of Shells,' pl. 7. f. 7.

Species 86. (Mus. Cuming.)

FISSURELLA DYSONI. *Fiss. testâ ovatâ, acuminato-conicâ, lateribus compressâ, radiatim squamato-costatâ, costis elevatis, interstitiis nitidè cancellatis, orificio subquadrato-oblongo, lateribus medio subexcavatis; virulescente-albâ, intùs nigro radiatâ.*

DYSON'S FISSURELLA. Shell ovate, acuminately conical, compressed at the sides, radiately squamately ribbed, ribs elevated, interstices neatly cancellated, orifice somewhat squarely oblong, slightly excavated at the sides; bluish-white, rayed with deep black.

Hab. Honduras; Dyson.

A beautifully sculptured species, allied in form to *F. Reppellii.*

Species 87. (Mus. Cuming.)

FISSURELLA PANAMENSIS. *Fiss. testâ rotundato-ovali, lateribus subcompressâ, radiatim tenuicostatâ, interstitiis subtilissimè cancellatis, orificio parvo, rotundato; albâ, fusco maculatâ et fulguratâ.*

THE PANAMA FISSURELLA. Shell rotundately oval, a little compressed at the sides, radiately thinly ribbed, the interstices being very finely cancellated, orifice small, rounded; white, blotched and lightning-marked with brown.

SOWERBY, Pro. Zool. Soc. 1834, p. 127.

Hab. Panama (on dead shells at a depth of from six to ten fathoms); Cuming.

Of a more rounded form than the preceding species, with a smaller and rounder orifice.

Species 88. (Mus. Cuming.)

FISSURELLA CALYCULATA. *Fiss. testâ ovatâ, anticè subattenuatâ, medio acuminato-conicâ, tenuissimâ, pellucidâ, lateribus compressâ, radiatim costatâ, costis fimbriato-squamatis, tribus posticis multò majoribus, costarum interstitiis pulcherrimè fimbriato-clathratis, orificio parvo, rotundato-ovato, intus posticè calyculato; pellucido-albâ, roseo tinctâ.*

THE CHAMBERED FISSURELLA. Shell ovate, slightly attenuated anteriorly, acuminately conical in the middle, very thin, pellucid, compressed at the sides, radiately ribbed, ribs fimbriately squamate, the three posterior ribs much the larger, interstices between the ribs very beautifully fimbriately lattiiced, orifice small, rotundately ovate, posteriorly chambered within; transparent white, tinged with rose.

SOWERBY, Genera of Shells, No. 21. f. 4.

Hab. ——?

It may be doubted whether the inner chamber posterior to the orifice is a character of the species. The larger size and squamate growth of the three posterior ribs may be regarded of more importance.

Fissurella, Pl. XIII.

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Sowerby Ld. et lith.

Frederic Reeve imp.

FISSURELLA.

PLATE XIII.

Species 89. (Mus. Cuming.)

FISSURELLA CANDIDA. *Fiss. testâ subelongato-ovatâ, concavo-elevatâ, lateribus subcompressâ, crassiusculâ, liris parvis concentricis et radiantibus undique decussatâ, orificio parvo, anticè valdè inclinato, lateribus medio excavatis; albâ, immaculatâ.*

THE WHITE FISSURELLA. Shell somewhat elongately ovate, concavely raised, somewhat compressed at the sides, rather thick, decussated throughout with small radiating and concentric ridges, orifice small, very much inclined anteriorly, sides excavated in the middle; white, unspotted.

SOWERBY, Conch. Illus. *Fiss.* Cat. p. 7. f. 58.

Hab. —— ?

The truncated growth of the posterior basal edge, described by Mr. Sowerby, appears to be accidental.

Species 90. (Mus. Cuming.)

FISSURELLA EXQUISITA. *Fiss. testâ ovatâ, medio elevato-conicâ, vix anticè inclinatâ, liris radiantibus et concentricis undique exiguè profundè clathratâ, liris radiantibus alternis minoribus, prope orificium evanidis, orificio orbiculari-ovato, parvisculo; pellucido-albâ.*

THE EXQUISITE FISSURELLA. Shell ovate, elevately conical in the middle, scarcely inclined anteriorly, delicately and deeply latticed throughout with radiating and concentric ridges, of which the alternate are smaller and disappear near the orifice, orifice orbicularly ovate, rather small; transparent white.

Hab. —— ?

The latticed sculpture of this species is extremely delicate and well-defined.

Species 91. (Mus. Cuming.)

FISSURELLA CATILLUS. *Fiss. testâ oblongo-ovatâ, crassiusculâ, lateribus subcompressâ, obscurè decussatim liratâ, liris subrudibus, ferè evanidis, orificio ovato, subamplo; roseâ, albido-radiatâ.*

THE LITTLE DISH FISSURELLA. Shell oblong-ovate, rather thick, a little compressed at the sides, obscurely decussately ridged, ridges somewhat rude, almost faded, orifice ovate, rather large; pinkish, rayed with dull white.

Hab. Java.

This specimen is uncoloured round towards the base, which is not likely to be a character of the species.

Species 92. (Mus. Cuming.)

FISSURELLA DIGITALE. *Fiss. testâ orbiculari-ovatâ, gibboso-conicâ, anticè valdè inclinatâ, striis elevatis valvantibus et concentricis undique creberrimè decussatâ, orificio parvo, suborbiculari; intensè cinereâ, prope basin fuscâ, circa orificium cærulescente.*

THE THIMBLE FISSURELLA. Shell orbicularly ovate, gibbously conical, very much inclined anteriorly, very closely decussated throughout with raised concentric and radiating striæ, orifice small, nearly orbicular; deep ash-colour, brown near the base, bluish around the orifice.

Hab. —— ?

An extremely characteristic species, having very much the appearance of a small *Patella*.

Species 93. (Mus. Cuming.)

FISSURELLA DACTYLOSA. *Fiss. testâ ovatâ, subconicâ, liris radiantibus et concentricis acutâ densè clathratâ, liris radiantibus alternatim unioribus et prominentibus, orificio ovato, parvo; albidâ, ferrugineo-fusco pallidè latiradiatâ.*

THE FINGERED FISSURELLA. Shell ovate, rather conical, sharply thickly latticed with radiating and concentric ridges, which are alternately larger and prominent, orifice ovate, rather small; whitish, faintly broadly rayed with rust-brown.

Hab. Kurrachee, Mouth of the Indus.

In this species every other alternate ridge is larger and more prominent than the rest.

Species 94. (Mus. Cuming.)

FISSURELLA AUSTRALIS. *Fiss. testâ ovatâ, medio valdè elevatâ, anticè concaviusculâ, costis costellisque compressis, acutis, radiantibus, liris concentricis undique profundè nodoso-clathratâ, orificio parvo, ovato; albidâ, pallidè ferrugineo subobscurè maculato-radiatâ.*

THE SOUTHERN FISSURELLA. Shell ovate, much raised in the middle, rather concave anteriorly, deeply nodosely

latticed throughout with radiating sharp compressed ribs and riblets, and concentric ridges, orifice small, ovate; whitish, somewhat obscurely blotch-rayed with light rust-brown.

Krauss, Sudafric. Moll. p. 67. pl. 4. f. 10.
Hab. Natal, South Africa.

A characteristic species of the same type as our British *F. reticulata*.

Species 95. (Mus. Cuming.)

Fissurella Conoides. *Fiss. testâ ovatâ, elevato-conicâ, crassâ, radiatim corrugato-costatâ, costis valdè irregularibus et rugosis, orificio ovato, centrali; albâ, circa orificium cinereo-nigricante, intus virescente.*

The Conia-like Fissurella. Shell ovate, elevately conical, thick, radiately corrugately ribbed, ribs very irregular and rugose, orifice ovate, central; white, ashy black around the orifice, greenish in the interior.
Hab. Cape of Good Hope.

Closely allied to the *F. glaucopis* and *alabastrites* from the Cape de Verd Islands.

Species 96. (Mus. Cuming.)

Fissurella cruciata. *Fiss. testâ oblongo-ovatâ, anticè inclinatâ, lateribus subcompressâ, liris radiantibus striisque concentricis elevatis nitidè clathratâ, liris alternis minoribus, prope orificium evanidis, orificio orbiculari-ovato; albâ, radiis quatuor ferrugineis interruptis basin versus notatâ.*

The cross-shaped Fissurella. Shell oblong-ovate, inclined anteriorly, rather compressed at the sides, neatly latticed with radiating ridges and raised concentric strie, alternate ridges smaller and fading near the orifice, orifice orbicularly ovate; white, marked towards the base with four interrupted rust-brown rays.

Krauss, Sudafric. Moll. p. 67. pl. 4. f. 9.
Hab. Natal, South Africa.

The cross-marked painting, which is more defined in the specimen represented by Dr. Krauss, must not be regarded as a specific character.

Species 97. (Mus. Cuming.)

Fissurella lentiginosa. *Fiss. testâ oblongo-ovatâ, gibboso-concavâ, depressiusculâ, liris radiantibus striisque concentricis elevatis undique densè clathratâ, orificio antico, orbiculari-ovato, subcomplo; albâ, fusco hic illic eximiè lentiginosâ, maculis grandibus nigricante-fuscis prope ad basin.*

The freckled Fissurella. Shell oblong-ovate, gibbously concave, rather depressed, thickly latticed throughout with radiating ridges and concentric raised lines, orifice anterior, orbicularly ovate, rather large; white, delicately freckled here and there with brown, with large blackish-brown blotches next the base.
Hab. ——?

The freckled style of painting appears to be a somewhat characteristic feature in this species.

Species 98. (Mus. Cuming.)

Fissurella larva. *Fiss. testâ ovatâ, elevato-conicâ, costis distantibus liriisque intermediis striis concentricis nitidè clathratâ, orificio anticè inclinato, ad extremitatem anticam peculiariter contracto; nigricante-olivaceâ, circa orificium hic illic albo notatâ.*

The mask Fissurella. Shell ovate, elevately conical, neatly latticed with distant ribs with intermediate ridges and concentric strie, orifice inclined anteriorly and peculiarly contracted at the anterior extremity; blackish-olive, marked here and there about the orifice with white.
Hab. Island of St. John's, West Indies; Hartvig.

A strongly sculptured shell with a very peculiar orifice, which is unusually contracted at the anterior end.

Fissurella. Pl. XIV.

99.

100.

101.

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103.

104.

105.

106.

107.

108.

Sowerby del. et lith.

Frederic Reeve, imp.

FISSURELLA.

PLATE XIV.

Species 99. (Mus. Cuming.)

FISSURELLA PILEOPSOIDES. *Fiss. testâ ovatâ, valdè elevatâ, anticè conspicuè falcatâ, radiatim denseliratâ, orificio oblongo-ovato, parviusculo; albâ.*

THE PILEOPSIS-LIKE FISSURELLA. Shell ovate, very much raised, anteriorly conspicuously hooked, radiately thickly ridged, orifice oblong-ovate, rather small; white.

Hab. Island of Masbate, Philippines (on the reefs at low water); Cuming.

Remarkable for the top of the shell being very much produced anteriorly, after the manner of a *Pileopsis*.

Species 100. (Fig. 100, 101, Mus. Cuming.)

FISSURELLA SINGAPORENSIS. *Fiss. testâ ovatâ, subconicâ, costellis numerosis radiantibus striis concentricis elevatiusculis denticulatratâ, orificio parvo, subcirculari; albidâ, cinereo-nigricante subobscurè radiatâ et variegatâ.*

THE SINGAPORE FISSURELLA. Shell ovate, subconical, thickly latticed with numerous radiating fine ribs and raised concentric strire, orifice small, nearly orbicular; whitish, somewhat obscurely rayed and variegated with light ash-black.

Hab. Singapore; Cuming.

The latticed sculpture of this species becomes frequently amalgamated and obscure towards the base.

Species 102. (Mus. Cuming.)

FISSURELLA SIEBOLDII. *Fiss. testâ ovatâ, medio elevatâ, anticè curvatâ, radiatim costatâ, costis subcompressis, distantibus, posticis majoribus, elevatis, concentricè rugoso-squamatis, orificio parvo, ovato, antico; albidâ, cinereo variegatâ.*

SIEBOLD'S FISSURELLA. Shell ovate, raised in the middle, curved anteriorly, radiately ribbed, ribs rather compressed, distant, the posterior larger, elevated, concentrically roughly squamate, orifice small, ovate, anterior; whitish, variegated with ash.

Hab. Japan; Dr. Siebold.

Belonging to a very characteristic group, including *F. calyculata* and others, in which the radiating ribs are widely separated, more or less squamate, and always larger at the posterior end of the shell.

Species 103. (Mus. Cuming.)

FISSURELLA MURICATA. *Fiss. testâ ovatâ, medio convexâ, lateribus depressiusculâ, radiatim subobscurè tenuiliratâ et striatâ, liris muricato-nodosis, orificio oblongo, lateribus medio excavatis; nigricante-purpureâ, albidâ circa orificium.*

THE PRICKLY FISSURELLA. Shell ovate, conical in the middle, rather depressed at the sides, radiately somewhat obscurely ridged and striated, ridges prickly-nodose, orifice oblong, sides excavated in the middle; blackish-purple, whitish round the orifice.

Hab. ——?

Distinguished chiefly by the prickly-nodose character of the ridges.

Species 104. (Mus. Cuming.)

FISSURELLA FIMBRIATA. *Fiss. testâ ovatâ, medio elevato-conicâ, radiatim costatâ, costis angustis, compressis, laminis concentricis pulcherrimè squamato-fimbriatâ, orificio ovato, centrali; griseo-albâ, nigricante-cinereo hic illic variegatâ.*

THE FURBELOWED FISSURELLA. Shell ovate, elevately conical in the middle, radiately ribbed, ribs narrow, compressed, very beautifully squamately furbelowed with concentric laminæ, orifice ovate, central; greyish-white, variegated here and there with blackish-ash.

Hab. Port Molle, North-east Coast of Australia (under stones at low water); Jukes.

In this most elaborately furbelowed species the orifice has a very central aspect and is peculiarly elevated.

Species 105. (Mus. Cuming.)

FISSURELLA VIMINEA. *Fiss. testâ oblongo-ovatâ, depresso-planâ, medio elevatiusculâ, obtusâ, radiatim costatâ, costis parvis, confertis, irregularibus, liris concentricis undique crebernimè decussatis, orificio oblongo, parviusculo; cinereo-olivaceâ, obscurè radiatâ, pellucido-albâ circa orificium.*

The wicker Fissurella. Shell oblong-ovate, depressly flattened, rather elevated in the middle, obtuse, radiately ribbed, ribs small, close-set, irregular, very closely decussated throughout with concentric ridges, orifice oblong, rather small; ash-olive, obscurely rayed, transparent around the orifice.

Hab. —— ?

The sculpture of this species is very peculiar, having the appearance of wicker-work.

Species 106. (Mus. Cuming.)

Fissurella ostrina. *Fiss. testâ ovatâ, subconicâ, lateribus subcompressâ, radatim liratâ, liris subrugosis, irregularibus, obscurè nodulosis, orificio oblongo, angusto, lateribus medio excavatis; nigro-purpureâ, orificium versus rosaceâ, intus virescente.*

The purple Fissurella. Shell ovate, slightly conical, rather compressed at the sides, radiately ridged, ridges subrugose, irregular, obscurely nodulous, orifice oblong, narrow, sides excavated in the middle; very dark purple, pinkish towards the orifice, greenish within.

Hab. —— ?

Simple in character, though irreferable to any hitherto described species.

Species 107. (Mus. Cuming.)

Fissurella Ticaonica. *Fiss. testâ ovatâ, gibboso-elevatâ, anticè valdè inclinatâ, subfalcatâ, liris radiantibus fortibus angustis, striis concentricis elevatis undique decussatâ, orificio elongato-oblongo, lateribus medio excavatis; virescente-albâ, olivaceo-viridi sparsim maculatâ et punctatâ, cæruleseente circa orificium.*

The Ticao Fissurella. Shell ovate, gibbously elevated, anteriorly much inclined, slightly hooked, thickly latticed throughout with strong narrow radiating ridges and raised concentric striæ, orifice elongately oblong, sides excavated in the middle; greenish-white, sprinkled with dots and blotches of olive-green, bluish round the orifice.

Hab. Island of Ticao, Philippines (under stones at low water); Cuming.

An extremely characteristic species, much elevated and curved anteriorly, with the same narrow oblong orifice mostly seen in the flat species.

Species 108. (Mus. Cuming.)

Fissurella quadriradiata. *Fiss. testâ ovatâ, gibboso-elevatâ, anticè subinclinatâ, liris fortibus radiantibus, alternatim majoribus, striisque elevatis concentricis densissimè clathratâ, orificio subelongato-oblongo, lateribus medio excavatis; albâ, nigro maculatâ et conspicuè quadriradiatâ.*

The four-rayed Fissurella. Shell ovate, gibbously elevated, a little inclined anteriorly, very thickly latticed with strong radiating ribs, which are alternately larger, and concentric raised striæ, orifice rather elongately oblong, with the sides excavated in the middle; white, blotched and conspicuously four-rayed with black.

Hab. Bais, Island of Negros, Philippines; Cuming.

Very similar in form and sculpture to *F. Roppellii*, from which it differs in respect of the orifice.

81.

109. a.

109. b.

109. c.

110.

111.

112.

113.

114.

115.

Sowerby, del. et lith.

Frederic Reeve, imp.

FISSURELLA.

PLATE XV.

Species 81. (Mus. Cuming.)

FISSURELLA NIGRIRADIATA. *Fiss. testâ elevato-conicâ, anticè inclinatâ, crassiusculâ, costis radiantibus et concentricis densè et subrudè clathratâ, interstitiis profundis, orificio ovato; albâ, intensè nigro interruptè radiatâ.*

THE BLACK-RAYED FISSURELLA. Shell elevately conical, inclined anteriorly, rather thick, closely and somewhat rudely latticed with radiating and concentric ridges, interstices deep, orifice ovate; white, rayed in an interrupted manner with intense black.

Hab. —— ?

A pure white shell, rayed with about eight deep black streaks, which are here and there interrupted.

Fig. 109 *a*, *b*, *c*. (Mus. Cuming.)

The specimens here figured must be referred to *F. calyculata* already described. It is an extremely variable species, except in that the three posterior ribs are always larger than the rest, and the sculpture of the same plan more or less thickened.

Species 110. (Mus. Metcalfe.)

FISSURELLA ELONGATA. *Fiss. testâ subelongato-oblongâ, depressâ, tenuiculâ, costis tenuibus radiantibus et concentricis undique vitiâ clathratâ, orificio ovato, magno, antice; albidâ, maculis parcis ferrugineis hic illic sparsis notatâ.*

THE ELONGATED FISSURELLA. Shell elongately oblong, depressed, rather thin, neatly latticed throughout with radiating and concentric fine ribs, orifice ovate, large, anterior; whitish, sparingly marked here and there with small rust-spots.

PHILIPPI, Abbild. und Besch. Conch. vol. ii. p. 33, *Fiss.* pl. 1. f. 2.

Hab. —— ?

A depressed whitish shell, with a few small scattered rust-spots, and rather large orifice.

Species 111. (Mus. Belcher.)

FISSURELLA ACULEATA. *Fiss. testâ oblongo-ovatâ, anticè subattenuatâ, depressâ, medio elevatiusculâ, radiatim costellatâ, concentricè laminatâ, laminis elegantèr aculeato-squamatis, orificio ovato, magno; spadiceo-albâ.*

THE PRICKLY FISSURELLA. Shell oblong-ovate, slightly attenuated anteriorly, depressed, rather elevated in the middle, radiately finely ribbed, concentrically laminated, laminæ elegantly prickly-scaled, orifice ovate, large; fawn-white.

Hab. —— ?

The radiating ribs of this elegant species are almost wholly formed of elevated prickly scales.

Species 112. (Mus. Metcalfe.)

FISSURELLA CONCINNA. *Fiss. testâ oblongo-ovatâ, depressiusculâ, medio elevatâ, radiatim obscurè nodulosolirâtâ, striis concentricis subcorrugatis decussatâ, orificio oblongo, lateribus medio excavatis; sordidè olivaceâ, nigricante-purpureo latiradiatâ, orificii margine albo.*

THE PRETTY FISSURELLA. Shell oblong-ovate, rather depressed, raised in the middle, radiately obscurely nodulously ridged, decussated with subcorrugate concentric striæ, orifice oblong, sides excavated in the middle; dull olive, broadly rayed with dark purple, edge of the orifice white.

PHILIPPI, Abbild. und Besch. Conch. vol. ii. p. 66. *Fiss.* pl. 2. f. 5.

Hab. Chili.

This species approximates very closely to *F. maxima* in a young state.

Species 113. (Mus. Belcher.)

FISSURELLA EXCELSA. *Fiss. testâ elevato-conicâ, anticè inclinatâ, costis radiantibus et concentricis subtiliter clathratâ, costis elegantèr auriculato-squamatis, orificio parvo, lateribus medio concinnè excavatis; fuscescente-albâ, rosco-fusco hic illic maculatâ.*

THE LOFTY FISSURELLA. Shell elevately conical, inclined anteriorly, finely latticed with radiating and concentric ribs which are elegantly squamate, orifice small, sides prettily excavated in the middle; brownish-white, spotted here and there with pinkish-brown.

Hab. Eastern Seas.

A remarkably high conical species, sometimes delicately sometimes stoutly squamately latticed.

Species 114. (Mus. Cuming.)

Fissurella cyathulum. *Fiss. testâ ovato-conicâ, elevatâ, radiatim acutè squamato-costatâ, costis alternatim majoribus, liris concentricis angustis clathratis, orificio parvo, ovato; albidâ, fusco variegatâ.*

The little cup Fissurella. Shell ovately conical, elevated, radiately sharply squamately ribbed, ribs alternately larger, latticed with narrow concentric ridges, orifice small, ovate; whitish, variegated with brown.

Hab. ——?

Somewhat like the preceding species, but not so elevated, more coarsely latticed, and differently perforated.

Species 115. (Mus. Belcher.)

Fissurella limatula. *Fiss. testâ oblongo-ovatâ, antice subattenuatâ, lateribus parùmve compressâ, radiatim subtiliter et confertim auricato-striatâ, orificio magno, ovato; albâ, nigricante tinctâ et radiatâ.*

The little file Fissurella. Shell oblong-ovate, somewhat attenuated anteriorly, sides a little compressed, radiately finely and closely prickly-striated, orifice large, ovate; white, stained and variegated with pale black.

Hab. ——?

A depressed shell, finely prickly-striated over its surface.

116.

117.

118.

118. a.

118. b.

118. c.

120.

121. a.

121. b.

122.

Sowerby, del. et lith.

Frederic Reeve, imp.

FISSURELLA.

PLATE XVI.

Species 116. (Mus. Cuming.)

FISSURELLA OCTAGONA. *Fiss. testâ ovatâ, elevatiusculâ, octocostatâ, liris parvis, minutè granulosis in interstitiis, orificio ovato, latiusculo, anticè inclinato; albidâ, radiis latis fuscescentibus prope margineum, circa orificium cæruleascente.*

THE OCTAGON FISSURELLA. Shell ovate, rather elevated, eight-ribbed, with small minutely granulated ridges in the interstices, orifice ovate, rather broad, inclined anteriorly; whitish, with broad light-brown rays near the margin, bluish around the orifice.

Hab. Island of Ticao, Philippines (on dead shells); Cuming.

As in several other species of this genus, the posterior ribs are rather more prominent than the anterior.

Species 117. (Mus. Cuming.)

FISSURELLA NIGRO-OCELLATA. *Fiss. testâ ovatâ, elevatiusculâ, radiatim et concentricè fortiter costatâ, costis subdistantibus, interstitiis decussato-clathratis, orificio orbiculari; albâ, maculis nigris prope margineum seriatim pictâ.*

THE BLACK-EYED FISSURELLA. Shell ovate, rather elevated, strongly radiately and concentrically ribbed, ribs rather distant, interstices thickly latticed, orifice orbicular; white, painted with a row of black spots near the margin.

Hab. Island of Ticao, Philippines (dredged from the depth of six fathoms); Cuming.

Characterized by a black spot in the interstice between each rib next the margin.

Species 118. (Fig. 118, 119 *a*, 119 *b*, 119 *c*, Mus. Cuming.)

FISSURELLA GIBBERULA. *Fiss. testâ ovatâ, subconicâ, anticè inclinatâ, radiatim costatâ, costis subangustis, confertis, interstitiis subprofundè clathratis, orificio parvo; albidâ, aut nigro aut viridi variegatâ.*

THE SLIGHTLY GIBBOUS FISSURELLA. Shell ovate, subconical, inclined anteriorly, radiately ribbed, ribs rather narrow, close-set, interstices rather deeply latticed, orifice small; whitish, variegated with black or green.

Hab. Mediterranean.

The painting of this species appears to vary from black to dark olive-green, and the latticed sculpture is more strongly developed in some specimens than in others.

Species 120. (Mus. Metcalfe.)

FISSURELLA MUS. *Fiss. testâ ovatâ, anticè subattenuatâ, lateribus subcompressâ, anticè valdè inclinatâ, radiatim creberrimè tenuiratâ, striis concentricis densè decussatâ, orificio oblongo, lateribus medio excavatis; albidâ, cinereo-nigricante profusè et irregulariter radiatâ.*

THE MOUSE FISSURELLA. Shell ovate, somewhat attenuated anteriorly, rather compressed at the sides, much inclined anteriorly, radiately very closely finely ridged, thickly decussated with concentric striæ, orifice oblong, sides excavated in the middle; whitish, profusely and irregularly rayed with ash-black.

Hab. ——?

The closeness of the sculpture as above described gives to this species an elaborately granulated aspect.

Species 121. (Fig. *a*, Mus. Metcalfe; Fig. *b*, Mus. Cuming.)

FISSURELLA GEMMULATA. *Fiss. testâ oblongo-ovatâ, anticè inclinatâ, liris tenuibus nodulosis undique confertim radiatâ, orificio oblongo-ovato, parviusculo, lateribus medio excavatis; albâ, carneo-nigricante peculiariter radiatâ.*

Fissurella minuta, Sowerby (not of Lamarck).

Hab. ——?

I name this shell anew on the testimony of M. Deshayes (Anim. sans vert. vol. vii. p. 599, note), that it is not

F. minuta of Lamarck, but have not have been able to identify that species.

Species 122. (Mus. Cuming.)

Fissurella tegula. *Fiss. testâ conico-ovatâ, crassiusculâ, anticè inclinatâ, lævigatâ, lineis impressis radiantibus obscurè decussatâ, orificio oblongo, lateribus subexcavatis; nigricante-cæruleâ, viltis augustis saturatioribus radiatâ.*

The slate Fissurella. Shell conically ovate, rather thick, inclined anteriorly, smooth, obscurely decussated with impressed radiating lines, orifice oblong, slightly excavated at the sides; blackish-blue, rayed with narrow fillets of a darker tint.

Hab. —— ?

A peculiar slate-coloured species of an elevated conical form, with little indication of sculpture.

FISSURELLA.

	Plate.	Species.
aculeata, *Reeve*	XV.	111
Ægis, *Reeve*	XI.	72
æqualis, *Sowerby*	VIII.	55
affinis, Gray	V.	26
alabastrites, *Reeve*	V.	27
alternata, *Say*	XII.	84
aperta, *Sowerby*	VI.	39
apertura, Montagu	X.	68
aspera, *Sowerby*	V.	30
asperella, *Sowerby*	VIII.	58
atrata, *Reeve*	XI.	73
australis, *Krauss*	XIII.	94
Bahamides, *Reeve*	X.	66
Barbadensis (*Patella*), Gmelin	IV.	23
bella, *Reeve*	III.	21
bicolor, Adams	IV.	25
biradiata, *Frembly*	III.	20
Bridgesii, *Reeve*	III.	16
calyculata, *Sowerby*	XII.	88
cancellata, Gray	X.	68
cancellata (*Patella*), Solander	VII.	51
candida, *Sowerby*	XIII.	89
cantillus, *Reeve*	XIII.	91
Cayennensis, *Lamarck*	XII.	82
Chemnitzii, *Sowerby*	I.	1
Chilensis, Sowerby	II.	14
clathrata, *Reeve*	VIII.	57
clypeiformis, Sowerby	I.	4
clypeus, *Sowerby*	XI.	76
coartata, *King*	V.	32
compressa, *Reeve*	IX.	60
concinna, *Philippi*	XV.	112
Conoides, *Reeve*	XIII.	95
costata, *Lesson*	II.	14
crassa, *Lamarck*	I.	4
crenifera, *Sowerby*	XII.	83
crenulata, *Sowerby*	III.	18
cruciata, *Krauss*	XIII.	96
Cumingii, *Reeve*	III.	17
cyathulum, *Reeve*	XV.	114
dactylosa, *Reeve*	XIII.	93
Darwinii, *Reeve*	I.	7
denticulatrata, *Reeve*	IX.	64
depressa, Lamarck	I.	4
digitale, *Reeve*	XIII.	92
dubia, *Reeve*	VI.	35
Dysoni, *Reeve*	XII.	86
edititia, *Reeve*	VII.	47
elongata, *Philippi*	XV.	110
Europæa, Sowerby	X.	68
excelsa, *Reeve*	XV.	113
exquisita, *Reeve*	XI.	74
fascicularis, *Lamarck*	VIII.	59
fimbriata, *Reeve*	XIV.	104
fulvescens, *Sowerby*	VI.	42
fumata, *Reeve*	IX.	63
fumiculata, *Reeve*	IX.	65
galericulum, *Reeve*	XI.	77
gemmulata, *Reeve*	XVI.	121
gibba, Philippi	XVI.	118
gibberula, *Lamarck*	XVI.	118
glaucopis, *Reeve*	V.	28
Græca, Lamarck	X.	71
Græca, nonnul.	X.	68
grandis, Sowerby	II.	11
grisea, *Reeve*	VI.	38
hiantula, *Lamarck*	VI.	36
Hondurasensis, *Reeve*	VII.	48
Humphreyi, *Reeve*	XII.	85
inæqualis, *Sowerby*	VII.	50
Incii, *Reeve*	X.	69
Indusica, *Reeve*	X.	67
Javanicensis, Sowerby	VI.	36
Jukesii, *Reeve*	VII.	45
larva, *Reeve*	XIII.	98
lata, *Sowerby*	I.	5
latimarginata, *Sowerby*	III.	19
lentiginosa, *Reeve*	XIII.	97
limatula, *Reeve*	XV.	115
limbata, *Sowerby*	II.	10
Lincolni, *Gray*	IX.	62
Listeri, *D'Orbigny*	X.	71
macrotrema, *Sowerby*	V.	31
maxima, *Sowerby*	IV.	22
Mediterranea, Gray	I.	3
Metcalfii, *Reeve*	XI.	75
Mexicana, *Sowerby*	VI.	40
microtrema, *Sowerby*	VII.	44

	Plate.	Species.
aiauta, Sowerby	XVI.	121
muricata, *Reeve*	XIV.	103
mutabilis, *Sowerby*	VII.	43
mus, *Reeve*	XVI.	120
Natalensis, *Krauss*	III.	15
neglecta, *Deshayes*	I.	3
nigra, *Lesson*	II.	11
nigriradiata, *Reeve*	XV.	81
nigrita, *Sowerby*	VI.	41
nigro-ocellata, *Reeve*	XVI.	117
nigro-punctata, *Sowerby*	IV.	8
nimbosa (*Patella*), Linnæus	V.	29
nodosa (*Patella*), Born	IV.	24
obscura, *Sowerby*	VII.	46
obtusa, *Sowerby*	VIII.	53
octagona, *Reeve*	XVI.	116
olivacea, *Gray*	IX.	61
oriens, *Sowerby*	II.	13
ostrina, *Reeve*	XIV.	106
Panamensis, *Sowerby*	XII.	87
Peruviana, *Lamarck*	V.	26
Philippiana, *Reeve*	VI.	37
pica, *Sowerby*	VII.	49
picta (*Patella*), Gmelin	I.	6
Pileopsoides, *Reeve*	XIV.	99
pulchra, *Sowerby*	II.	9
pustula (*Patella*), Linnæus	VIII.	52
quadriradiata, *Reeve*	XIV.	108
reticulata (*Patella*), Donovan	X.	68
rota, *Reeve*	XII.	79
rudis, Deshayes	II.	14
rugosa, *Sowerby*	VIII.	56
Ruppellii, *Sowerby*	VIII.	54
sagittata, *Reeve*	VI.	34
salebrosa, *Reeve*	XI.	78
scutella, *Gray*	VI.	33
Sieboldii, *Reeve*	XIV.	102
Singaporensis, *Reeve*	XIV.	100
stellata, *Reeve*	XII.	80
subrotunda, Deshayes	V.	26
suffusa, *Reeve*	X.	70
tegula, *Reeve*	XVI.	122
Tiencnica, *Reeve*	XIV.	107
trapezina, Sowerby	VI.	35
venusta, *Reeve*	XIII.	90
vimincn, *Reeve*	XIV.	105
violacea, Eschscholtz	II.	11
virescens, *Sowerby*	IV.	12
viridula, *Lamarck*	IV.	25
volcano, *Reeve*	IV.	2

ERRATA.

Sp. 37. For *F. nigra*, Philippi, read *F. Philippiana*, Reeve.

Sp. 39. *F. aperta*. I have been informed by Mr. Gray that this species, his *Pupillæa aperta*, is not the *Fissurellidea unguiformis* of D'Orbigny from Patagonia, but that it belongs to a different though closely allied mollusk inhabiting Port Natal, as figured by Dr. Krauss in his 'Südafrikanischen Mollusken,' pl. 4. f. 11. Having no authentic specimens of the Patagonian species, by which to identify it with certainty, I was struck with the resemblance of the shell before me to D'Orbigny's figures.

Sp. 70. For *F. Hondurasensis*, read *F. suffusa*, Reeve.

Sp. 90. For *F. exquisita*, read *F. venusta*, Reeve.

Sp. 118. *F. gibberula*, add authority, *Lamarck*, Anim. sans vert. (Deshayes' edit.) vol. vii. p. 599; and synonyme *F. gibba*, Philippi.

MONOGRAPH

OF THE GENUS

PARTULA.

Almighty God, and full of might,
By whom all thing is made of nought,
To thee my heart is ready dight,
For upon thee is all my thought.

Old Hymn of Abel.

Partula Pl. I.
1.a.
1.b.
1.c.
2.
3.a.
3.b.
4.
5.a.
5.b.
5.c.
Sowerby del. et lith.
Reeve Benham & Reeve imp.

PARTULA.

PLATE I.

Genus PARTULA, *Férussac.*

Testa parvuscula, acuminato-ovata vel oblonga, basin versus plerumque obliquè producta, parum umbilicata, anfractibus quinque ad sex, plus minus lævibus, lineis impressis spiralibus minutè insculptis, columellâ incrassatâ, plano-approssâ, aperturâ subquadrato-ovatâ, labro latè planireflexo, interdum calloso.

Shell rather small, acuminately ovate or oblong, generally obliquely produced towards the base, but little umbilicated, whorls five to six in number, more or less smooth, minutely engraved with impressed spiral lines, columella thickened, flatly appressed, aperture somewhat squarely ovate, lip broadly flatly reflected, sometimes callous.

Partula is the Polynesian type of that tribe of snails which is represented in other parts of the world by the genus *Bulimus*; and it is questioned by many whether, under these circumstances, seeing that there is no difference in the soft parts, it claims to rank as a genus. The *Partulæ* have a strong peculiarity of form, plan of colouring, and even of sculpture. The shells are distinguished by a comparative uniformity of size and substance, and all are more or less conspicuously engraved with fine spiral impressed lines; whilst the aperture is peculiar in being produced somewhat obliquely, and in having mostly an auricular aspect, owing to the callous thickening of the lip, which is invariably broadly flatly reflected.

De Férussac was the first to note the particular local character of what may be termed the *Bulimi* of the Pacific Islands, and the present genus, by which he proposed to distinguish them, obtained considerable additional interest from the species added to it by Mr. Broderip, from Mr. Cuming's gleanings in that locality. The views of De Férussac and Broderip have not been adopted by Dr. Pfeiffer, but they appear to be very generally followed by collectors in this country; and the characters above recorded for generic purposes render the species easy of detection.

There is one species, *P. auricula*, which differs from the typical character of the group in having two elevated plaits entering into the aperture, one upon the columella and another upon the body-whorl, which does not appear to be a modification of the callosity often present in that part of the shell. It is much smaller in size, and might prove hereafter to constitute the type of another genus.

Species 1. (Fig. *a*, *b*, *c*, Mus. Cuming.)

PARTULA ROSEA. *Part. testâ pyramidali-ovatâ, umbilicatâ, basin versus obliquè productâ, tenuiculâ, anfractibus plano-convexis, spiraliter minutè impresso-lineatis, anfractu ultimo obsoletè angulato, aperturâ quadrato-ovali; castaneo-roseâ, interdum luteo fasciatâ, aperturæ fauce nunc albâ, nunc roseo tinctâ.*

THE ROSE PARTULA. Shell pyramidally ovate, umbilicated, obliquely produced towards the base, rather thin, whorls flatly convex, spirally minutely impressly lineated, last whorl obsoletely angled, aperture squarely oval; chestnut-rose, sometimes banded with yellow, interior of the aperture white, or stained with rose.

BRODERIP, Pro. Zool. Soc. 1832, p. 125.

Hab. Huaheine, Society Islands; Cuming.

Distinguished by its acuminated form, which is obsoletely angled towards the base, then produced somewhat obliquely. The shell is moreover of light substance, and delicately coloured more or less with dark chestnut-rose and yellow.

Species 2. (Mus. Cuming.)

PARTULA BRUMALIS. *Part. testâ subacuminato-oblongâ, umbilicatâ, anfractibus spiraliter minutè impresso-lineatis, aperturâ ovatâ, columellâ labroque latè reflexis; fulvo-castaneâ, labro albo.*

THE WINTERLY PARTULA. Shell somewhat acuminately oblong, umbilicated, whorls spirally minutely impressly lineated, aperture ovate, lip and columella broadly reflected; fulvous-chestnut, lip white.

Hab. ——?

Closely allied to *P. Guamensis*, from which it differs in being of a more oblong acuminated form; it is of one uniform colour throughout.

Species 3. (Fig. *a* and *b*, Mus. Cuming.)

PARTULA INFLATA. *Part. testâ conico-ovatâ, umbilicatâ, spirâ brevisculâ, anfractibus valdè inflatis, ultimo angulato-gibbosis, concentricè rudè striatis, spiraliter minutè impresso-lineatis, lineis undulatis, aperturâ parvisculâ, columellâ labroque latissimè planireflexis; albâ vel pallidè cinnamomeâ, epidermide tenui indutâ, labro albo.*

THE INFLATED PARTULA. Shell conically ovate, umbilicated, spire rather short, whorls considerably inflated, last whorl angularly gibbous, concentrically rudely striated, spirally minutely impressly lineated, lines slightly waved, aperture rather small, lip and columella very broadly flatly reflected; white or pale cinnamon, covered with a thin epidermis, lip white.

REEVE, Pro. Zool. Soc. 1842, p. 197, and Conch. Syst. vol. ii. pl. 175. f. 11, 12.

Bulimus Thersites, Pfeiffer.

Hab. Sandwich Islands.

Well characterized by its light gibbous inflated growth.

Species 4. (Mus. Cuming.)

PARTULA GUAMENSIS. *Part. testâ ovatâ, ventricosâ, umbilicatâ, spirâ breviusculâ, anfractibus subrotundatis, spiraliter minutè impresso-lineatis, aperturâ subamplâ; intensè castaneâ, labro purpurascente-albo.*

THE GUAM PARTULA. Shell ovate, ventricose, umbilicated, spire rather short, whorls somewhat round, spirally minutely impressly lineated, aperture rather large; dark chestnut, lip purplish-white.

Bulimus Guamensis, Pfeiffer, Phil. Abbild. und Besch. Conch. *Bul.* pl. 4. f. 9.

Hab. Island of Guam, Ladrones.

This species has a swollen appearance, and is of less solid substance than the following.

Species 5. (Fig. *a*, *b*, *c*, Mus. Cuming.)

PARTULA FABA. *Part. testâ acuminato-oblongâ, umbilicatâ, solidiusculâ, anfractibus subplano-convexis, paucis primis sub lente minutè spiraliter lineatis, columellâ latè reflexâ, tuberculatâ, aperturâ subquadrato-ovali, labro latè planireflexo, intus calloso; intensè castaneâ aut fulvâ, fusco strigatâ, interdum nigrifasciatâ.*

THE BEAN PARTULA. Shell acuminately oblong, umbilicated, rather solid, whorls somewhat flatly convex, the first few minutely spirally impressly lineated beneath the lens, columella broadly reflected, tuberculated, aperture somewhat squarely oval, lip broadly flatly reflected, callous inwardly; dark chestnut or fulvous, streaked with brown, sometimes black-banded.

SOWERBY, Zool. Beechey's Voyage, p. 144. pl. 38. f. 4.

Limax faba, Martyn.

Helix faba, Gmelin.

Auris-Midæ fasciata, Chemnitz.

Voluta fasciata, Dillwyn.

Bulimus australis, Bruguière.

Partula australis, Férussac.

Bulimus faba, Lamarck.

Partula Bulimoides, Lesson.

Hab. Ulitea, Society Islands (on bushes); Cuming.

Remarkable for its solid growth and broadly flattened lip. It is extremely variable in colour, being dark chestnut, or fulvous, or partaking of both colours, and is found in great abundance.

Sowerby del. et lith.

R. B. & R. imp.

PARTULA.

PLATE II.

Species 6. (Fig. *a*, *b*, Mus. Cuming.)

PARTULA RADIOLATA. *Part. testâ oblongâ, tenuiculâ, umbilicatâ, basin versus obliquè productâ, anfractibus quinque, convexis, lineis impressis spiralibus subdistantibus cingulatis, columellâ latè reflexâ, plano-appressâ, aperturâ obliquè ovatâ, labro tenuiculo, latè reflexo; semipellucidâ, pallidè straminea aut cinnamomeo-rufescente, lineis opaco-albis obliquè promiscuè notatâ.*

THE DELICATELY RAYED PARTULA. Shell oblong, rather thin, umbilicated, obliquely produced towards the base, whorls five in number, convex, encircled with rather distant spiral impressed lines, columella broadly reflected, flatly appressed, aperture obliquely ovate, lip rather thin, broadly reflected; semitransparent, pale straw-colour or cinnamon-red, promiscuously marked with oblique opake-white lines.

Bulimus radiolatus, Pfeiffer, Pro. Zool. Soc. 1846, p. 39.

Hab. Island of Guam, Ladrones (on bushes); Cuming.

An extremely delicate species, of a light straw-colour, or pale cinnamon-red, profusely obliquely marked with fine opake-white lines.

Species 7. (Mus. Cuming.)

PARTULA LINEATA. *Part. testâ acuminato-oblongâ, umbilicatâ, tenuiculâ, anfractibus sex, spiraliter tenuissimè impresso-striatis; fulvescente, subpellucidâ, fasciis duabus castaneis distantibus cingulatâ.*

THE LINEATED PARTULA. Shell acuminately oblong, umbilicated, rather thin, whorls six in number, spirally very finely impressly striated; light fulvous, subtransparent, encircled with two distant chestnut bands.

LESSON, Voyage de la Coquille, p. 324. pl. 7. f. 8, 9.

Hab. Friendly Islands.

The lower of the two widely separated chestnut bands which encircle this species is only seen on the last whorl.

Species 8. (Fig. 8 *a*, and 10, Mus. Cuming.)

PARTULA AMABILIS. *Part. testâ pyramidali-oblongâ, sinistrorsâ, subturritâ, vix umbilicatâ, anfractibus sex, convexis, obliquè tenuistriatis, ad suturas obscurè subtilissimè crenulatis; fulvescente, castaneo conspicuè latifasciatâ, interdum aurantio-fulvescente, apicem versus cæruleâ roseâ, aperturæ labro interdum livido-purpurascente.*

THE LOVELY PARTULA. Shell pyramidally oblong, sinistral, somewhat turreted, scarcely umbilicated, whorls six in number, convex, obliquely finely striated, obscurely very finely crenulated at the sutures; fulvous, conspicuously broadly banded with chestnut, sometimes orange-fulvous, tinged with rose towards the apex, lip sometimes livid purple.

Bulimus amabilis, Pfeiffer, Pro. Zool. Soc. 1846, p. 38.

Hab. Island of Anaa; Captain Rohr.

The fine spiral impressed lines which characterize most of the species are absent in this.

Species 9. (Mus. Cuming.)

PARTULA DENSILINEATA. *Part. testâ acuminato-conicâ, tenuiculâ, umbilicatâ, spiræ suturis impressis, anfractibus superne subplanulatis et tenuissimarginatis, infernè rotundatis aut leviter angulatis, columellâ plano-reflexâ, obsoletè plicatâ, aperturâ ovatâ, labro parum reflexo; albicante, lineis obliquis ferrugineis cinereisque densissimè pictâ.*

THE THICKLY-LINEATED PARTULA. Shell acuminately conical, rather thin, umbilicated, sutures of the spire impressed, whorls rather flattened and finely margined at the upper part, rounded and slightly angled at the lower, columella flatly reflected, obsoletely plicate, aperture ovate, lip but little reflected; whitish, very thickly painted with oblique rust and ash lines.

Hab. ——?

The lip of this shell, the only example of the species known to me, is scarcely mature. The linear painting is discontinued before reaching the umbilicus.

Species 10. (Fig. 8 *b*, Mus. Cuming.)

PARTULA ISABELLINA. *Part. testâ oblongâ, crassâ, umbilicatâ, anfractibus quinque, convexis, obliquè striatis, apicem versus, sub lente, tenuissimè spiraliter impresso-lineatis, columellâ incrassatâ, plicato-gibbâ, callositate superne unitâ, aperturâ obliquè prodactâ, labro calloso-reflexo; sordidè flavicante, labro albo.*

THE SOILED PARTULA. Shell oblong, thick, umbilicated, whorls five in number, convex, obliquely striated, very finely spirally impressly lineated towards the

apex beneath the lens, columella thickened, furnished above with a callosity, plicately gibbous, aperture obliquely produced, lip callously reflected; dull yellowish, lip white.

Bulimus isabellinus, Pfeiffer, Pro. Zool. Soc. 1846, p. 39.
Hab. —— ?

Of this species also only a single specimen is yet known. It is allied to the following, but is essentially distinguished by its more oblong form.

Species 11. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Partula Otaheitana. *Part. testâ globoso-conicâ, crassissimâ, interdum sinistrorsâ, umbilicatâ, anfractibus quinque, convexis, lævibus, apicem versus, sub lente, tenuissimè impresso-lineatis, columellâ incrassatâ, callositate sæpe superne munitâ, aperturâ auriculatâ, labro valdè calloso; castaneâ, aut luteâ, aut castaneo interque fasciatâ, labro albo.*

The Otaheite Partula. Shell globose, conical, very thick, umbilicated, sometimes sinistral, whorls five in number, convex, smooth, very finely impressly lineated towards the apex beneath the lens, columella thickened, often furnished with a callosity above, aperture auriculated, lip very callous; chestnut, or yellow, or chestnut and yellow banded, lip white.

Bulimus Otaheitanus, Bruguière, Enc. Méth. vol. i. p. 347.
Helix perversa, Chemnitz.

Eadem varietas. *Partula auriculata*, Broderip.

Hab. Society Islands.

An extremely variable species, of which Fig. 13 *a*, *b*, in the next plate, represents its most slender form, and the figures which accompany this description its most gibbous state, with callosity, constituting Mr. Broderip's *P. auriculata*.

13. a.

13.

13. b.

14.

15. a.

15. b.

16.

17. a

17. b.

17. c.

Sowerby, del. et lith.

R. B. & B. imp.

PARTULA.

PLATE III.

Species 12. (Mus. Cuming.)

PARTULA RUBESCENS. *Part. testâ acuminato-oblongâ, crassiusculâ, sinistrorsâ, compressè umbilicatâ, anfractibus sex, lævibus, subrotundatis, columellâ labroque planireflexis; rosaceâ, apicem versus rubro-fuscâ.*

THE PINK PARTULA. Shell acuminately oblong, rather thick, sinistral, compressly umbilicated, whorls six in number, smooth, somewhat rounded, lip and columella broadly reflected; pink, red-brown towards the apex.

Hab. —— ?

This species, of which Mr. Cuming possesses three specimens, is larger than *P. rosea*, and of more solid acuminated growth.

Fig. 13 *a*, *b*. (Mus. Cuming.)

PARTULA OTAHEITANA. The shells here figured represent the sinistral and more slender state of the above-named species, described in the preceding plate. This variety has been erroneously labelled in collections *P. australis*, which is only another name of *P. faba*.

For Species 13, see Plate IV.

Species 14. (Mus. Cuming.)

PARTULA HYALINA. *Part. testâ oblongâ, vix umbilicatâ, anfractibus sex, obliquè lævissimè subrudè striatis, lineis spiralibus impressis minutè et creberrimè sculptâ; pellucido-albâ.*

THE HYALINE PARTULA. Shell oblong, scarcely umbilicated, whorls six in number, obliquely very lightly but rudely striated, and minutely very closely engraved with impressed lines; transparent white.

BRODERIP, Pro. Zool. Soc. 1832, p. 32.

Hab. Tumaco, Society Islands (on the Ti plant); Cuming.

A delicate pellucid bluish-white shell, elaborately carved, beneath the lens, with spiral impressed lines.

Species 15. (Fig. *a*, *b*, Mus. Cuming.)

PARTULA GIBBA. *Part. testâ ovato-conicâ, basin versus gibbâ et latè inflatâ, umbilicatâ, spirâ brevi, acutâ, anfractibus quinque, convexis, sub lente spiraliter creberrimè impresso-lineatis, aperturâ subquadrato-ovali, obliquè productâ; flavicante, apicem versus roseâ, vel cinereâ, suturis albis.*

THE GIBBOUS PARTULA. Shell ovately conical, gibbous and broadly inflated towards the base, umbilicated, spire short, sharp, whorls five in number, convex, spirally very closely impressly lineated beneath the lens, aperture somewhat squarely ovate, obliquely produced; yellowish, tinged with rose towards the apex, or ash, sutures white.

FERUSSAC, Prodrome, p. 66.

Bulimus gibbus, Quoy.

Hab. Sandwich Islands (on plants); Quoy and Gaimard.

There are two very distinct varieties of this species; one of pale yellow tipped with rose, the other of an uniform ash-colour, in which the white sutures are more conspicuous.

Species 16. (Mus. Cuming.)

PARTULA GANYMEDES. *Part. testâ oblongo-conicâ, tenuiculâ, umbilicatâ, anfractibus quinque, convexis, obliquè leviter subrudè striatis, lineis spiralibus impressis minutissimè et creberrimè sub lente sculptis, aperturâ subquadrato-ovali, columellâ labroque latè planireflexis; albâ, subpellucidâ, fasciâ unicâ castaneâ cingulatâ, epidermide tenuissimâ indutâ.*

GANYMEDE'S PARTULA. Shell oblong-conical, rather thin, umbilicated, whorls five in number, convex, obliquely lightly somewhat rudely striated, very minutely and closely sculptured, beneath the lens, with impressed lines, aperture somewhat squarely ovate, lip and columella broadly flatly reflected; white, somewhat transparent, encircled with a single chestnut band, covered with a very thin fugacious epidermis.

Bulimus Ganymedes, Pfeiffer, Pro. Zool. Soc. 1846, p. 39.

Hab. Society Islands.

Only the upper edge of the chestnut band is left visible in the first four whorls of this very elegant and characteristic species.

Species 17. (Fig. *a*, *b*, *c*, Mus. Cuming.)

PARTULA VARIA. *Part. testâ acuminato-ovatâ, tenuiculâ,*

compressè umbilicatâ, anfractibus quinque, convexis, lævibus, nitentibus, nisi sub lente nitentissimè spiraliter impresso-lineatis, aperturâ subquadrato-ovatâ, obliquâ; flavicante, aut purpureo-castaneâ, aut flavicante et purpureo-castaneo fasciatâ, labro colore interdum tincto, apice sæpe nigricante.

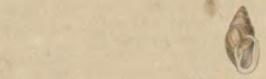
THE VARIABLE PARTULA. Shell acuminately ovate, rather thin, compressly umbilicated, whorls five in number, convex, smooth, shining, unless very minutely spirally impressly lineated beneath the lens, aperture somewhat squarely ovate, oblique; yellowish, or purple-chestnut, or yellow and purple-chestnut banded, lip sometimes stained with colour, apex often blackish.

BRODERIP, Pro. Zool. Soc. 1832, p. 125.

Hab. Society and Navigator's Islands (on bushes); Cuming.

Dr. Pfeiffer regards this species as a variety of *P. rosea*. Both species are extremely variable in their colouring, but the species and their varieties are clearly distinct the one series from the other.

Partula, Pl. IV.



18.

18. a.

18. b.

19.

20.

21.

22.

23.

24.

25.

Reeve Bonham & Reeve imp.

PARTULA.

PLATE IV.

Species 13. (Mus. Cuming.)

PARTULA CARTERETENSIS. *Part. testâ oblongo-ovatâ, compressè umbilicatâ, anfractibus convexis, obliquè irregulariter striatis, lineis impressis spiralibus minutè sculptis, aperturâ ovatâ, marginibus laminâ tenuissimâ callosâ junctis; semipellucido-albâ, fulvo tinctâ.*

THE PORT CARTERET PARTULA. Shell oblong-ovate, compressly umbilicated, whorls convex, obliquely irregularly striated, minutely sculptured with impressed spiral lines, aperture ovate, margins joined by a thin callous lamina; semitransparent white, fulvous-stained.

Helix Carteriensis, Quoy and Gaimard, Voy. de l'Astrol. vol. ii. p. 117. pl. 9. f. 10, 11.

Bulimus Carteriensis, Pfeiffer.

Hab. Port Carteret, New Ireland, Pacific Ocean; Quoy.

Allied to *P. hyalina*, but of a more compressed oblong form and of a substance rather more opake.

Species 18. (Fig. *a*, *b*, Mus. Cuming.)

PARTULA AURICULA. *Part. testâ oblongo-conicâ, solidiusculâ, basin versus obliquè productâ, subumbilicatâ, anfractibus planiconvexis, lævibus, ultimo basi obsoletè carinato, aperturâ subquadrato-ovali, laminis duabus prominentibus erectis intrantibus munitâ; albâ, nunc luteo, nunc rufo-fusco cingulatâ.*

THE EAR PARTULA. Shell oblong-conical, rather solid, obliquely produced towards the base, slightly umbilicated, whorls flatly convex, smooth, last whorl obsoletely keeled, aperture somewhat squarely ovate, with two prominent erect laminæ entering into it; white, encircled sometimes with yellow, sometimes with red-brown.

FERUSSAC, Prodrome, p. 66.

Partula Dumartroyi, Souleyet.

Auricula Owaihiensis, Chamisso.

Bulimus auricula, Pfeiffer.

Eadem sinistrorsa.

Auricula sinistrorsa, Chamisso.

Bulimus armatus, Mighels.

Hab. Sandwich Islands.

The chief peculiarity of this little species consists in the presence of two sharp erect laminæ, which enter the aperture, one on the columella, and another on the body-whorl, which is not a modification of the callosity often present in that part of the shell.

Species 19. (Mus. Cuming.)

PARTULA GONOCHEILA. *Part. testâ subabbreviato-ovatâ, ventricosâ, compressè umbilicatâ, anfractibus rotundatis, obliquè irregulariter striatis, lineis impressis spiralibus minutè sculptis, aperturâ ovatâ, columellâ labroque latè planireflexis, labro supernè leviter contracto; semipellucido-fulvâ, epidermide tenuissimâ, interdum bifasciatâ, indutâ.*

THE ANGLE-LIPPED PARTULA. Shell somewhat abbreviately ovate, ventricose, compressly umbilicated, whorls rounded, obliquely irregularly striated, minutely sculptured with spiral impressed lines, aperture ovate, lip and columella broadly flatly reflected, lip a little contracted at the upper part; semitransparent fulvous, covered with a very slight epidermis, sometimes disposed in two bands.

PFEIFFER, MS. (Mus. Cuming).

Hab. Navigators' Islands, Pacific Ocean.

A somewhat globose semitransparent shell, with an extremely delicate epidermis, which is partly bi-membranous and hydrophanous in bands.

Species 20. (Mus. Cuming.)

PARTULA COMPRESSA. *Part. testâ acuminato-oblonga, crassiusculâ, basin versus obliquè productâ, subampliter compressè umbilicatâ, anfractibus convexis, obliquè striatis, vix spiraliter lineatis, anfractu ultimo basi rotundato-angulato, aperturâ oblongâ, labro declivi-reflexo, supernè leviter contracto; intensè castaneâ, labro et aperturæ fauce livido-purpureis.*

THE COMPRESSED PARTULA. Shell acuminately oblong, rather thick, obliquely produced towards the base, rather largely compressly umbilicated, whorls convex, obliquely striated, very slightly spirally lineated, last whorl rotundately angled at the base, aperture oblong, lip reflected in a slanting direction, a little contracted at the upper part; dark chestnut-brown, lip and interior of the aperture livid purple.

PFEIFFER, MS. (Mus. Cuming).

Hab. Society Islands.

The compressed form of this shell is characteristic, and so also is the livid-purple colouring of the interior.

Species 21. (Mus. Cuming.)

PARTULA NAVIGATORIA. *Part. testâ oblongo-ovatâ, crassiusculâ, medio ventricosâ, anguste umbilicatâ, anfractibus subrude obliquè striatis, vix spiraliter lineatis, aperturâ auriculatâ, columellâ labroque latè calloso-reflexis; fulvo-castaneâ, labro albido.*

THE NAVIGATOR PARTULA. Shell oblong-ovate, rather thick, slightly ventricose in the middle, narrowly umbilicated, whorls somewhat rudely striated, scarcely spirally lineated, aperture auriculate, the lip and columella being broadly callously reflected; fulvous chestnut, lip white.

PFEIFFER, MS. (Mus. Cuming).

Hab. Navigators' Islands.

The aperture of this species, which may be distinguished by its oblong-oval form, slightly ventricose in the middle only, is very similar to that of *P. Otaheitana*.

Species 22. (Mus. Cuming.)

PARTULA SOLIDULA. *Part. testâ acuminato-ovatâ, subgibbosâ, compressè umbilicatâ, solidulâ, anfractibus planiconvexis, obliquè irregulariter striatis, lineis spiralibus impressis minutè sculptis, aperturâ auriculatâ, columellâ labroque latè calloso-reflexis; straminea, apice interdum rufescente, labro albo.*

THE SOLID PARTULA. Shell acuminately ovate, rather gibbous, compressly umbilicated, solid, whorls flatly convex, obliquely irregularly striated, minutely sculptured with spiral impressed lines, aperture auriculate, the lip and columella being broadly callously reflected; straw-colour, sometimes reddish at the apex.

Hab. Society Islands.

A solid subtransparent shell, having the character and substance of *P. Otaheitana* with the form and colouring of *P. gibba*; excepting that the whorls are not crowned with the white sutural band which is constant in that species.

Species 23. (Mus. Cuming.)

PARTULA DECUSSATULA. *Part. testâ subabbreviato-ovatâ, tenui, lyfaldi, anfractibus quatuor, convexis, striis obliquis lineisque spiralibus impressis exilissimè decussatis, aperturâ subcontractâ, rotundato-ovatâ, labro parum reflexo; pellucido-albâ.*

THE DECUSSATED PARTULA. Shell somewhat abbreviately ovate, thin, inflated, whorls four in number, convex, faintly decussated with oblique striæ and spiral impressed lines, aperture rather contracted, rotundately ovate, lip but little reflected; transparent white.

PFEIFFER, MS. (Mus. Cuming).

Hab. —— ?

A thinner and more inflated shell than *P. hyalina*, and equally transparent.

Species 24. (Mus. Cuming.)

PARTULA SPADICEA. *Part. testâ acuminato-oblongâ, tenuiculâ, compressè umbilicatâ, anfractibus convexis, striis obliquis lineisque spiralibus impressis exilissimè decussatâ, aperturâ ovatâ, parvisculâ, columellâ plano-appressâ, labro declivi-reflexo; pellucido-spadiceâ, labro albido.*

THE FAWN PARTULA. Shell acuminately oblong, rather thin, compressly umbilicated, whorls convex, faintly decussated with oblique striæ and spiral impressed lines, aperture ovate, rather small, columella flatly appressed, lip reflected in a slanting direction; transparent fawn-colour, lip whitish.

Hab. Marquesas Islands.

A delicate subtransparent shell, of a uniform transparent fawn-colour.

Species 25. (Mus. Cuming.)

PARTULA HEBE. *Part. testâ abbreviato-conicâ, globosâ, gibbosâ, solidulâ, umbilicatâ, anfractibus rotundatis, striis obliquis subrugosis lineisque spiralibus impressis decussatâ, aperturâ orbiculari, callositate erectâ supra columellam, columellâ labroque calloso-reflexis; semipellucido-albâ.*

HEBE'S PARTULA. Shell abbreviately conical, globose, gibbous, rather solid, umbilicated, whorls rounded, decussated with rather rough oblique striæ and spiral impressed lines, aperture orbicular, with an erect callosity above the columella, lip and columella callously reflected; semitransparent white.

PFEIFFER, Pro. Zool. Soc. 1846. p. 39.

Hab. Society Islands.

Distinguished by its short globose manner of convolution.

PARTULA.

	Plate.	Species.
amabilis (*Bul.*), Lesson	II.	8
auricula, *Férussac*	IV.	18
auriculata, Brod.	II.	11
brumalis, *Reeve*	I.	2
Bulimoides, Lesson	I.	5
Carteretensis (*Helix*), Quoy	IV.	13
compressa (*Bul.*), Pfr.	IV.	20
decussatula (*Bul.*), Pfr.	IV.	23
densilineata, *Reeve*	II.	9
Demartroyi, Souleyet	IV.	18
falsa (*Limax*), Martyn	I.	5
Ganymedes (*Bul.*), Pfr.	III.	16
gibba (*Bul.*), Quoy	III.	15
gonocheila (*Bul.*), Pfr.	IV.	19
Guamensis (*Bul.*), Pfr.	I.	4
Hebe (*Bul.*), Pfr.	IV.	25
hyalina, *Broderip*	III.	14
inflata, *Reeve*	I.	3
isabellina (*Bul.*), Pfr.	II.	10
lineata, *Lesson*	II.	7
Navigatoria (*Bul.*), Pfr.	IV.	21
Otaheitana (*Bul.*), Brug.	II.	11
radiolata (*Bul.*), Pfr.	II.	6
rosea, *Broderip*	I.	1
rubescens, *Reeve*	III.	12
solidula, *Reeve*	IV.	22
spadicea, *Reeve*	IV.	24
varia, *Broderip*	III.	17

MONOGRAPH

OF THE GENUS

ACHATINELLA.

Nature, that formed us of four elements,
Warring within our breasts for regiment,
Doth teach us all to have aspiring minds;
Our souls, whose faculties can comprehend
The wondrous architecture of the world,
Still climbing after knowledge infinite,
Will us to wear ourselves and never rest,
Until we reach the ripest fruit of all.—*Marlowe.*

1.

1. a.

1. b.

2.

3.

3. a.

3. b.

4.

7.

8.

Sowerby del et lith.

Reeve Benham. & Reeve. imp.

ACHATINELLA.

PLATE I.

Genus ACHATINELLA, *Swainson.*

Testa parvuscula, conica, aut sinistrorsa aut dextrorsa, haud umbilicata, anfractibus plerumque sex ad septem et levibus, columellâ brevi, latè appressâ, callosâ et sæpissimè contortâ, aperturâ parvusculâ, labro simplici, interdum subincrassato, nunquam reflexo.

Shell rather small, conical, either sinistral or dextral, not umbilicated, whorls generally six to seven in number and smooth, columella short, broadly appressed, callous and mostly twisted, aperture rather small, lip simple, sometimes rather thickened, never reflected.

The gaily painted shells which form the subject of the present monograph have an especial claim to the honour of being ranked as a genus. They are nearly all of an uniform size and substance, they are characterized by the same plan of convolution, of from six to seven whorls, never umbilicated, by a similar vivid design of colouring, and by a peculiarly callous twisted plicate structure of the columella; the genus is, moreover, confined to one particular isolated locality, the Sandwich Islands. An exception must, however, be made in part to these remarks, in reference to three small horny species, *A. clarus*, *pyramis*, and *corneola*, placed in the genus by Dr. Pfeiffer, which are more nearly allied to the *Glandina* division of the *Achatinæ*, and might be appropriately removed hence.

The generic character of *Achatinella* was observed about the same time by Swainson in England, and by Férussac in France; the former in his descriptions and figures of new species in the 'Zoological Illustrations,' and the latter in a plate devoted to the few species then known to him, towards the close of his great work on the terrestrial mollusca. The *Achatinellæ* were also noted in the United States about the same period by Professor Green, of Philadelphia, in a short memoir communicated to the Macluran Lyceum of that city; and some important species were subsequently contributed by Professor Mighels and Dr. Gould, of that rising seat of scientific learning, Boston, Massachusetts.

None of the *Achatinellæ* were known to Linnæus; nor even to Chemnitz, until the completion of his great work. In the last plate of the Conchylien Cabinet there is a figure of *A. perversa*, under the generic name of *Turbo*, and in a plate just preceding that, is a figure of *A. lugubris*, referred to the same marine genus. Lamarck had no more acquaintance with the *Achatinellæ* than Chemnitz. The same species which came under the observation of Chemnitz, *A. lugubris*, was observed by Lamarck, who, supposing it, like him, to belong to a mollusk of salt-water habits on account of its polished substance, referred it in error to the same marine family, independently of any knowledge that his *Monodonta seminigra* and the *Turbo lugubris* of the Conchylien Cabinet were one and the same thing.

In the valuable monograph of this genus lately published by Dr. Pfeiffer, there are some points in which I find occasion to differ from him. *A. bicolor*, Jay, does not participate in the essential characters of the genus, and is referred to *Achatina*. *A. plicata* is a very abnormal form, having little if any indication of the callous twisted columella, whilst it is of a different substance from the rest of the species, and the only one with any external raised sculpture, but this I have allowed to remain; as also the three horny species already mentioned partaking of the *Glandina* type. *A. Bulimoides*, Swainson, is distinct from *A. lorata*, Férussac, and both differ essentially from *A. mustelina*, Mighels. *A. Stewarti* cannot be safely regarded as a variety of *A. vulpina*, nor is Swainson's *A. perversa* identical with Férussac's *A. decora*. The species are extremely variable throughout in colour, but it is important not to throw too many of them together on this account, whilst each, regarded strictly, appears to be characterized by regularity of form and general unity of design.

As already noted in regard to the geographical position of the genus, the *Achatinellæ* are confined to the Sandwich Islands, where they represent the *Achatinæ* or *Bulimi* of the continent.

Species 1. (Mus. Cuming.)

ACHATINELLA NUBILOSA. *Achat. testâ ovato-oblongâ, dextrorsâ, anfractibus rotundatis, longitudinaliter plicato-striatis, ad suturas leviter crenulatis, columellâ unipliculâ, plicâ compressâ, marginali; carneo-straminea, flammis nigricante-olivaceis irregulariter striatâ et reticulatâ, apice rubeato-fuscâ, aperturæ fauce albicante.*

THE CLOUDED ACHATINELLA. Shell ovately oblong, dextral, whorls rounded, longitudinally plicately striated, slightly crenulated at the sutures, columella furnished with a single compressed marginal plait;

flesh-tinged straw-colour, irregularly striated and reticulated with blackish-olive flames, interior of the aperture whitish.

Mighels, Pro. Boston Nat. Hist. Soc. 1845, p. 20.

Hab. Oahu, Sandwich Islands.

Elegantly streaked and reticulated with dark olive upon a warm cream-yellow ground, very promiscuously clouded in some specimens, as in *A. picta* and *vesusta*.

Species 2. (Fig. *a* and *b*, Mus. Cuming.)

Achatinella fallida. *Achat. testâ acuminato-ovatâ, solidiusculâ, anfractibus plano-convexis, obliquè subrudè striatis, superne marginatis, sulco suturis subremoto, columellâ brevi, latè callosâ; albâ, fusco vel castaneo-nigricante plus minus fasciatâ, columellâ labroque fuscescente-carneis.*

The pale Achatinella. Shell acuminately ovate, rather solid, whorls flatly convex, obliquely somewhat rudely striated, margined round the upper part, the groove being rather distant from the sutures, columella short, broadly callous; white, more or less banded with brown or chestnut-black, lip and columella brownish-flesh.

Nuttall, Jay's Catalogue of Shells, 1839, p. 58.

Eadem var. *Achatinella alba*, Nuttall.

Hab. Wahoo, Sandwich Islands; Nuttall.

Allied to *A. decora*, from which it is distinguished by its more acuminated and less ventricose form.

Species 3. (Fig. 3, 4, 5, Mus. Cuming.)

Achatinella virgulata. *Achat. testâ oblongo-ovatâ, ventricosâ, aut sinistrorsâ aut dextrorsâ, anfractibus medio plano-convexis, superne tumidiusculis, lineis spiralibus et obliquis undique minutè decussatis, columellâ callosâ; albidâ aut lacteâ, vittis castaneis, nunc angustis, nunc latiusculis, cingulatâ, fasciâ conspicuâ purpureo-fuscâ prope ad apicem.*

The striped Achatinella. Shell oblong-ovate, ventricose, either sinistral or dextral, whorls flatly convex in the middle, rather swollen round the upper part, minutely decussated throughout with spiral and oblique lines, columella callous; white or cream-colour, encircled with chestnut fillets, promiscuously broad or narrow, and a conspicuous dark purple-brown band near the apex.

Partula virgulata, Mighels, Pro. Boston Nat. Hist. Soc. 1845, p. 20.

Achatinella Rohri, Pfeiffer.

Bulimus Rohri, Pfeiffer.

Eadem var. *Bulimus insignis*, Mighels.

Hab. Sandwich Islands (on bushes); Rohr.

This fine species, which has been referred in turn to the genera *Partula* and *Bulimus*, belongs unquestionably to the genus under consideration, for which it is well characterized by its peculiarity of form, structure of lip and columella, and design of painting.

For Species 4 and 5, see Pl. VI.

Species 6. (Mus. Cuming.)

Achatinella lorata. *Achat. testâ ovato-conicâ, dextrorsâ, solidiusculâ, anfractibus plano-convexis, lævibus, ad suturas marginatis, columellâ brevi, latè appressâ, callosâ, aperturâ parviusculâ; castaneo-brunea, suturis saturatioribus, fasciâ unicâ albâ cingulatâ.*

The belted Achatinella. Shell ovately conical, dextral, rather solid, whorls flatly convex, smooth, margined at the sutures, columella short, broadly appressed, callous, aperture rather small; chestnut-brown, encircled with a single white band.

Helix (*Cochlogena*) *lorata*, Férussac, Hist. Moll. pl. 151. f. 9–11.

Hab. Sandwich Islands.

A. mustelina and *Bulimoides*, which Dr. Pfeiffer quotes as synonyms of this species, are certainly distinct.

Species 7. (Mus. Cuming.)

Achatinella tæniolata. *Achat. testâ ovatâ, dextrorsâ, subventricosâ, anfractibus convexis, lævibus, columellâ brevi, latè appressâ, aperturâ parviusculâ; albidâ, fusco variè fasciatâ.*

The filleted Achatinella. Shell ovate, dextral, rather ventricose, whorls convex, smooth, columella short, broadly appressed, aperture rather small; whitish, variously banded with brown.

Pfeiffer, Pro. Zool. Soc. 1846. p. 58.

Hab. Sandwich Islands.

About intermediate in its characters between the foregoing species and that which follows.

Species 8. (Mus. Cuming.)

Achatinella Bulimoides. *Achat. testâ ovatâ, dextrorsâ, ventricosâ, solidiusculâ, anfractibus convexis, lævibus, superne marginatis, columellâ brevi, latiusculè appressâ, callosâ; albidâ, anfractuum parte inferiori castaneo-brunneâ.*

The Bulimus-like Achatinella. Shell ovate, dextral, ventricose, rather solid, whorls convex, smooth, margined round the upper part, columella short, very broadly appressed, callous; whitish, lower part of the whorls chestnut-brown.

Swainson, Zool. Illus. 2nd Series, vol. ii. pl. 108. f. 1.

Hab. Sandwich Islands.

Larger and more ventricose than either of the two preceding allied species, it differs more especially from the latter, which it most resembles in form, in having the whorls margined next the sutures.

9.

10. a.

10. b.

11.

12. a.

12. b.

13.

14.

15.

16.

Sowerby, del et lith.

Reeve, Benham & Reeve imp.

ACHATINELLA.

PLATE II.

Species 9. (Mus. Cuming.)

ACHATINELLA VITTATA. *Achat. testâ dextrorsâ, globoso-conicâ, subcentricosâ, anfractibus superne sublatè marginatis, columellâ callosâ, vix dentatâ, labro subincrassato; albâ, lineis viltisque pallidè fuscescentibus cinguiatâ, apice nigrâ.*

THE FILLETED ACHATINELLA. Shell dextral, globosely conical, rather ventricose, whorls rather broadly marginated round the upper part, columella callous, scarcely toothed, lip rather thickened; white, encircled with lines and fillets of pale brown, black at the apex.

Hab. Sandwich Islands.

This approaches so closely to the sinistral species *A. decora* that it might readily be taken for a dextral variety. The whorls are more rounded and more distinctly margined beneath the sutures. The painting is very similar, but mostly darker next the sutures.

Species 10. (Fig. *a* and *b*. Mus. Cuming.)

ACHATINELLA LUGUBRIS. *Achat. testâ subacutè conicâ, dextrorsâ, basin versus ventricosâ, anfractibus superne marginatis, columellâ brevi, callosâ, dentatâ, labro subincrassato; purpureo-nigrâ, apice albâ, vel albâ, nigro aut fusco fasciatâ et lineatâ.*

THE MOURNING ACHATINELLA. Shell rather sharply conical, dextral, ventricose towards the base, whorls margined round the upper part, columella short, callous, toothed, lip somewhat thickened; purple-black, white at the apex, or white, lineated and banded with brown or black.

Turbo lugubris, Chemnitz, Conch. Cab. vol. xi. p. 278. pl. 209. f. 2059, 2060.

Helix (*Cochlogena*) *lugubris*, Férussac.

Monodonta seminigra, Lamarck.

Bulimus seminiger, Menke.

Achatinella pica, Swainson.

Hab. Sandwich Islands.

Lamarck, mistaking this for a marine species, described it as a *Monodonta* from the shores of Tahiti, where the natives use the shell for making necklaces. It is mainly distinguished by its sharply conical form.

Species 11. (Mus. Cuming.)

ACHATINELLA SUFFUSA. *Achat. testâ oblongo-ovatâ, sinistrorsâ, anfractibus convexis, subradè obsolètè striatis, columellâ contorto-plicatâ, apertura simplici; rosco-albicante, apice fusco-rubente, aperturæ fusce carneo-roseâ.*

THE BLUSHING ACHATINELLA. Shell oblong-ovate, sinistral, whorls convex, somewhat rudely obsoletely striated, columella with a twisted plait, aperture simple; pinkish-white, brown-red at the apex, interior of the aperture flesh-pink.

Hab. —— ?

A delicately coloured species, partaking very much of the character of *Bulimus*, the whorls being less smoothly polished than usual and not margined at the sutures. It resembles *A. rosea* in general aspect, but is a different kind of shell.

Species 12. (Fig. *a* and *b*. Mus. Cuming.)

ACHATINELLA DECORA. *Achat. testâ globoso-conicâ, centricosâ, sinistrorsâ, columellâ brevi, latâ, plano-callosâ, labro subincrassato; albâ, fascis lineisque castaneis et nigris variè pictâ, columellâ labraque purpurascente tinctis.*

THE HANDSOME ACHATINELLA. Shell globosely conical, ventricose, sinistral, columella short, broad, flatly callous, lip somewhat thickened; white, variously banded with chestnut and black bands and lines, lip and columella stained with light purple.

FERUSSAC, Hist. Moll. pl. 155. f. 5 and 7.

Achatinella vestita, Mighels.

Hab. Sandwich Islands.

Distinguished by its globose ventricose growth, striped painting, and light purple colouring of the lip and columella. Férussac's Fig. 6 represents a distinct species, *A. perverna*, Swainson.

Species 13. (Mus. Cuming.)

ACHATINELLA PRODUCTA. *Achat. testâ subelongato-conicâ, dextrorsâ, anfractibus convexis, ad suturas leviter marginatis, columellâ conspicuè calloso-dentatâ, aperturâ parvisculâ; olivaceo-viridi, apice, columellâ, et aperturæ fauce albis.*

THE PROLONGED ACHATINELLA. Shell somewhat elongately conical, dextral, whorls convex, slightly mar-

gined at the sutures, columella conspicuously callous-toothed, apex rather small; olive-green, apex, columella, and interior of the aperture white.

Hab. Sandwich Islands.

Chiefly distinguished by its elongately conical form, and light olive-green colouring.

Species 14. (Mus. Cuming.)

ACHATINELLA PERVERSA. *Achat. testâ globoso-conicâ, sinistrorsâ, apicem versus subacuminatâ, columellâ callosâ, plano-dentatâ, labro subincrassato; olivaceo-fuscâ, lineis viridi-nigricantibus spiralibus et obliquis subirregulariter decussatâ, supra et infra suturas opaco-albâ.*

THE REVERSED ACHATINELLA. Shell globosely conical, sinistral, rather acuminated towards the apex, columella callous, flatly toothed, lip somewhat thickened; olive-brown, rather irregularly decussated with spiral and oblique greenish-black lines, opake-white above and below the sutures.

SWAINSON, Zool. Illus. Second Series, pl. 99. f. 2.
Turbo lugubris sinistrorsus, Chemnitz.
A. decora, var. Pfeiffer.

Hab. Sandwich Islands.

The opake white sutures are very characteristic in this species, and it has moreover a peculiar cross-lined style of painting. De Férussac figured it with *A. decora*, and Dr. Pfeiffer quotes it as a variety of that species.

Species 15. (Mus. Cuming.)

ACHATINELLA SIMULANS. *Achat. testâ globoso-conicâ, sinistrorsâ, apicem versus acutâ, anfractibus supernè conspicuè marginatis, columellâ brevi, plano-callosâ; albâ, lineis perpaucis fuscescentibus cingulatâ, fasciâ intensè fuscâ circa columellam, columellâ labroque pallidè purpurascentibus.*

THE ALLIED ACHATINELLA. Shell globosely conical, sinistral, sharp towards the apex, whorls conspicuously margined at the sutures, columella short, flatly callous; white, encircled with a very few light brown lines, with an intense brown band around the columella, lip and columella tinged with light purple.

Hab. —— ?

The colouring of this species is so like that of *A. decora*, that it might be taken for a variety; yet it differs in form, the spire being more acuminated, and the last whorl not so broad and ventricose.

Species 16. (Mus. Cuming.)

ACHATINELLA SPIRIZONA. *Achat. testâ elongato-conicâ, dextrorsâ, subumbilicatâ, anfractibus septem ad octo, convexis, obliquè plicato-striatis, striis ad suturas subrudibus, columellâ contorto-plicatâ, aperturâ parvissimâ; intensè brunneâ, zonâ albâ infra suturas, epidermide tenui fuscescente indutâ.*

THE SPIRAL-ZONED ACHATINELLA. Shell elongately conical, dextral, slightly umbilicated, whorls seven to eight in number, convex, obliquely plicately striated, striæ somewhat rude at the sutures, columella with a twisted plait, aperture rather small; intense brown, with a white zone beneath the sutures, covered with a thin brownish epidermis.

FERUSSAC, Hist. Moll. pl. 155. f. 14, 15.
Achatinella acuta, Swainson.

Hab. Oahu, Sandwich Islands.

This and *A. turritella* represent an abnormal form of the genus, differing from the type in having more whorls and in not possessing a similarly polished painted exterior.

17.

18.

19.

20.

21 a.

21 b.

22.

22 a.

22 b.

24.

Sowerby, del. et lith.

Reeve Bentham & Reeve imp.

ACHATINELLA.

PLATE III.

Species 17. (Mus. Cuming.)

ACHATINELLA BELLA. *Achat. testâ conicâ, dextrorsâ, anfractibus subcostricosis, columellâ contorto-plicatâ; olivaceo-luteâ, vuturis nigro-fuscis, deinde albifasciatâ, anfracta ultimo infernè fusco et allo fasciato.*

THE PRETTY ACHATINELLA. Shell conical, dextral, whorls rather ventricose, columella with a twisted plait; olive-yellow, sutures black-brown, then white-banded, last whorl brown and white-banded.

Hab. Motokni, Sandwich Islands.

Mr. Cuming possesses several specimens of this pretty species of immature growth. The dark sutural band is sometimes absent in the last whorl, but the white band appears constant.

Species 18. (Mus. Cuming.)

ACHATINELLA COLORATA. *Achat. testâ oblongo-conicâ, dextrorsâ, anfractibus plano-convexis, columellâ contorto-plicatâ, aperturâ parvâ; luteâ, viridi latifasciatâ, vuturis nigro-fuscis, columellâ pallidè rosaceâ.*

THE COLOURED ACHATINELLA. Shell oblong-conical, dextral, whorls flatly convex, columella with a twisted plait, aperture small; yellow, encircled with a very broad green band, sutures black-brown, columella light pink.

Hab. Sandwich Islands.

Characterized, like *A. pulcherrima*, by a dark sutural line within the suture, but of a less elongated form. The ground-colour is a bright yellow, and each whorl is painted with a broad bright green band.

Species 19. (Mus. Cuming.)

ACHATINELLA ABBREVIATA. *Achat. testâ ovatâ, subventricosâ, dextrorsâ, anfractibus convexis, supernè marginatis, spirâ brevissimâ, apice obtusâ, columellâ callosâ, contortâ; olivaceo-luteâ, lineâ nigro-fuscâ ad suturas, anfractuum parte inferiori nigricante-viridi.*

THE SHORTENED ACHATINELLA. Shell ovate, somewhat ventricose, dextral, whorls convex, margined round the upper part, spire rather short, obtuse at the apex, columella callous, twisted; olive-yellow, with a black-brown line at the sutures, lower part of the last whorl very dark green, apex black.

Hab. —— ?

The form of this species is again distinct from either of the preceding.

Species 20. (Mus. Cuming.)

ACHATINELLA OLIVACEA. *Achat. testâ oblongo-conicâ, sinistrorsâ, anfractibus convexis, supernè tenuissimè marginatis, columellâ contorto-plicatâ; intensè viridi-olivaceâ, lineis fuscescentibus subobscurè cinctâ, columellâ et aperturæ fauce albis.*

THE OLIVE ACHATINELLA. Shell oblong-conical, sinistral, whorls convex, thinly margined round the upper part, columella with a twisted plait; dark green-olive, encircled with rather obscure brownish lines, columella and interior of the aperture white.

Hab. —— ?

The rich dark olive colouring of this species leaves off suddenly in an abrupt line at the aperture, and the remainder of the body-whorl is of an orange-fawn tint, like a shell denuded to that extent of epidermis.

Species 21. (Mus. Cuming.)

ACHATINELLA MUSTELINA. *Achat. testâ aut sinistrorsâ aut dextrorsâ, acuminato-conicâ, anfractibus subrotundatis, supernè marginatis, columellâ callosâ, subappressâ, aperturâ subauriculatâ, labro incrassato; fusco-cinereâ, vuturis et apice albis.*

THE TAWNY ACHATINELLA. Shell acuminately conical, whorls somewhat rounded, margined round the upper part, columella callous, rather appressed, aperture slightly auriculated, lip thickened; brownish ash, sutures and apex white.

MIGHELS, Pro. Boston Nat. Hist. Soc. 1845, p. 21.

Hab. Waianai, Sandwich Islands.

Distinguished by its acuminated form and subauriculate aperture, whilst the colouring is peculiar.

I cannot agree with Dr. Pfeiffer, in regarding this and *A. Bulimoides* as varieties of *A. turata*. On referring to De Férussac's and Swainson's figures of these species, which I have identified with specimens in Mr. Cuming's collection, it will be found that all three are distinct from each other, in form, substance, and arrangement of colours.

Species 22. (Mus. Cuming.)

ACHATINELLA BILINEATA. *Achat. testâ oblongo-conicâ, dextrorâ, basin versus subventricosâ, anfractibus rotundatis, columellâ dentato-plicatâ; viridi luteâ, lineis duabus nigris approximatis medio conspicuè cingulatâ.*

THE TWO-LINED ACHATINELLA. Shell oblong-conical, dextral, rather ventricose towards the base, whorls rounded, columella dentately plicate; bright yellow, conspicuously encircled round the middle with two close black lines.

Hab. ——?

The form of this shell is peculiar, and there is something equally characteristic in the marking.

Species 23. (Mus. Cuming.)

ACHATINELLA FULCHERRIMA. *Achat. testâ subelongato-conicâ, dextrorâ, anfractibus convexis, superne tenuimarginatis, columellâ brevi, callosâ; luteâ, fasciis latiusculis nigris plerumque cingulatâ, suturis semper nigris.*

THE VERY BEAUTIFUL ACHATINELLA. Shell somewhat elongately conical, dextral, whorls convex, thinly margined round the upper part, columella short, callous; yellow, mostly encircled with rather broad black bands, sutures always black.

SWAINSON, Brand's Journal, 1828, p. 85. Zool. Illus. 2nd series, pl. 123. f. 2.

Achatinella Byronii, Gray.

Hab. Sandwich Islands.

Although the black sutural line is striking and constant, the character is by no means confined to this species. Two or three have been confounded together in collections under this apprehension.

Species 24. (Mus. Cuming.)

ACHATINELLA CASTANEA. *Achat. testâ oblongo-conicâ, sinistrorâ, apice subobtusâ, anfractibus convexis, superne tenuimarginatis, columellâ dentato-plicatâ; ustulato-luteâ, anfractûs ultimi dimidio inferiori viridi castaneo, interdum undique castaneâ, columellâ et aperturæ fauce albis.*

THE CHESTNUT ACHATINELLA. Shell oblong-conical, sinistral, rather obtuse at the apex, whorls convex, thinly margined round the upper part, columella dentately plicate; burnt yellow, lower half of the last whorl bright chestnut, sometimes chestnut throughout, columella and interior of the aperture white.

Hab. Sandwich Islands.

The colouring of this species always partakes more or less of rich bright chestnut.

25.

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27.

28.a.

28.c.

28.b.

28.d.

28.e.

30.

31.

Sowerby del et lith.

Reeve Benham & Reeve imp.

ACHATINELLA.

PLATE IV.

Species 25. (Mus. Cuming.)

ACHATINELLA VIRIDANS. *Achat. testâ ovato-conicâ, dextrorsâ, anfractibus convexis, columellâ brevi, dentato-plicatâ; cinereo-viridi aut virescente, lineis obliquis saturatioribus prosiscè notatâ, fasciâ albâ latâ infra suturas cingulatâ, columellâ albâ.*

THE GREENISH ACHATINELLA. Shell ovately conical, dextral, whorls convex, columella short, dentately plicate; ash-green or pale green, promiscuously marked with oblique darker lines, encircled with a broad white band beneath the sutures, columella white.

MIGHELS, Pro. Boston Nat. Hist. Soc. 1845, p. 20.

Hab. Sandwich Islands.

A light green or ash-green shell, without bands or marking, encircled by a broad white band beneath the sutures.

Species 26. (Mus. Cuming.)

ACHATINELLA STEWARTI. *Achat. testâ subelongato-conicâ, sinistrorsâ, anfractibus plano-convexis, columellâ contorto-plicatâ, aperturâ parvisculâ, labro simplici; olivaceo-luteâ, fasciâ suturali nigrâ.*

STEWART'S ACHATINELLA. Shell somewhat elongately conical, sinistral, whorls flatly convex, columella with a twisted plait, aperture rather small, lip simple; olive-yellow, with a black sutural band.

GREEN, Contributions to the Maclurian Lyceum of Philadelphia, 1837, Part 2. p. 47. pl. 4, f. 1 to 4.

Hab. Oahu, Sandwich Islands.

This species, which I consider to be distinct from *A. vulpina*, is described by Professor Green as inhabiting the deep valleys of Oahu, at all seasons, adhering to the under surface of the large leaves of a plant called Ti, from the roots of which the natives brew an intoxicating liquor. The favourite mode of preparing them for food, is to tie up large numbers in the Ti leaves and bake them with heated stones.

Species 27. (Mus. Cuming.)

ACHATINELLA PRASINUS. *Achat. testâ oblongo-conicâ, sinistrorsâ, anfractibus convexis, obliquè subrudè impresso-striatis, columellâ brevi, contorto-plicatâ; intùs viridi, lineis nigricantibus obscurè cingulatâ, apice albâ, columellâ albâ.*

THE DARK-GREEN ACHATINELLA. Shell oblong-conical, sinistral, whorls convex, obliquely somewhat rudely impressly striated, columella short, twisted-plaited; very dark green, encircled with obscure dark lines, white at the apex, columella white.

Hab. —— ?

There is a slight peculiarity of form, and a very distinct arrangement of colours in this species.

Species 28. (Mus. Cuming.)

ACHATINELLA ROSEA. *Achat. testâ ovatâ, solidiusculâ, ventricosâ, sinistrorsâ, anfractibus convexis, lævibus, superiè marginatis, columellâ callosâ, contorto-plicatâ, aperturæ labro subincrassato; albidâ, basin versus et in sulco suturali carneo-rosaceo tinctâ, columellâ labroque purpurascente-roseis.*

THE ROSE ACHATINELLA. Shell ovate, rather solid, ventricose, sinistral, whorls convex, smooth, margined round the upper part, columella callous, twisted-plaited, lip of the aperture rather thickened; whitish, tinged with flesh-pink towards the base and in the sutural groove, lip and columella purple-rose.

SWAINSON, Brand's Journal, 1828, p. 85. Zool. Illus. 2nd Series, pl. 123. f. 1.

Hab. Sandwich Islands; Rev. A. Bloxam.

At the time Mr. Swainson described this species, he entertained a doubt of its being a variety of *B. Bulimoides*. It will be found to differ in form, and the colouring is materially different.

Species 29. (Fig. *a*, *b*, *c*. Mus. Cuming.)

ACHATINELLA VULPINA. *Achat. testâ acuminato-oblongâ, sinistrorsâ, interdum subventricosâ, anfractibus subplano-convexis, columellâ brevi, callosâ, dentato-plicatâ, aperturæ labro parum incrassato; olivaceâ aut albicante, strigis obliquis rufo-fuscescentibus, lineis fasciisque spiralibus nigris aut viridibus aut fuscis variè pictâ, columellâ purpurascente-roseâ.*

THE SUBTLE ACHATINELLA. Shell acuminately oblong, sinistral, sometimes rather ventricose, whorls somewhat flatly convex, columella short, callous, dentately

plicate, lip of the aperture but little thickened; olive or whitish, with oblique light red-brown streaks, variously painted with spiral black or green or brown bands and lines, columella purple-rose.

FERUSSAC, Hist. Moll. pl. 155. f. 1.

Hab. Sandwich Islands.

The colouring of this species is extremely variable; there is, however, but one prevailing idea in its manner of distribution. The columella is of a livid purple-rose in all the varieties. I consider *A. Stewartii*, Green, to be a distinct species, notwithstanding that it resembles this in the colour of the columella; and *A. livida*, Swainson, whose figure is only a magnified representation of an immature shell, cannot be referred to it without considerable doubt.

Species 30. (Mus. Cuming.)

ACHATINELLA ADUSTA. *Achat. testâ acuminato-oblongâ, subturritâ, sinistrorsâ, anfractibus rotundatis, columellâ brevi, callosâ, dentatâ; intensè castaneâ, basi nigricante, fasciâ spirali nigrâ infra suturas, columellâ rosaceâ.*

THE SCORCHED ACHATINELLA. Shell acuminately oblong, somewhat turreted, sinistral, whorls rounded, columella short, callous, toothed; dark chestnut, darker towards the base, with a spiral black band beneath the sutures, columella pinkish.

Hab. ——?

The general colouring of this species, which is allied to *A. vulpina* and *Stewarti*, is similar to *A. castanea*, in which the black sutural band is wanting, and in which the columella is particularly white.

Species 31. (Mus. Cuming.)

ACHATINELLA VENTULUS. *Achat. testâ oblongo-cylindraceâ, dextrorsâ, anfractibus plano-convexis, subtilissimè impresso-striatis, ad suturas leviter crenulatis, columellâ brevi, arcuatâ, tenuè contorto-plicatâ, aperturâ parvâ; intensè brunneâ, fasciâ pallidâ infra suturas et circa columellam, epidermide tenui indutâ, aperturæ fauce cærulescente.*

THE SLIGHTLY-INFLATED ACHATINELLA. Shell oblong-cylindrical, dextral, whorls flatly convex, very finely impressly striated, slightly crenulated at the sutures, columella short, arched, thinly twisted-plaited, aperture small; very dark brown, with a pale band beneath the sutures and around the columella, covered with a slight epidermis, interior of the aperture bluish.

Helix (*Cochlogena*) *ventulus*, Férussac, Prodrome, no. 437.

Achatinella microstoma, Gould (fide Pfeiffer).

Hab. Oahu, Sandwich Islands; Hinds.

A dark cylindrical sub-horny shell with a slight fugacious epidermis.

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38.

39.

40.

41.

Sowerby, del et lith.

Reeve Benham & Reeve imp.

ACHATINELLA.

PLATE V.

Species 32. (Mus. Cuming.)

ACHATINELLA VENUSTA. *Achat. testâ elongato-conicâ, sinistrorsâ, spirâ acuminatâ, apice obtusâ, anfractibus rotundatis, striatulis, columellâ valdè contortâ et plicatâ, aperturâ parvâ; luteâ, maculis flammisque nigris conspicuè pictâ, apice purpureo-fusco.*

THE HANDSOME ACHATINELLA. Shell elongately conical, sinistral, spire acuminated, obtuse at the apex, whorls rounded, finely striated, columella much twisted and plaited, aperture small; yellow, conspicuously painted with black spots and flames, apex purple-brown.

MIGHELS, Pro. Boston Nat. Hist. Soc. 1845, p. 21.

Hab. Oahu, Sandwich Islands.

Distinguished from *A. picta*, to which it is the nearest allied species, by its more elongated form and bright yellow ground-colouring.

Species 33. (Mus. Cuming.)

ACHATINELLA CITRINA. *Achat. testâ elongato-conicâ, sinistrorsâ, spirâ subacuminatâ, anfractibus rotundatis, striatulis, ultimo obsoletè carinulato, columellâ valdè contortâ, biplicatâ, aperturâ parviusculâ; vividè citrinâ.*

THE CITRON ACHATINELLA. Shell elongately conical, sinistral, spire somewhat acuminated, whorls rounded, finely striated, the last finely obsoletely keeled, columella much twisted, two-plaited, aperture rather small; bright citron yellow.

MIGHELS, MS.

Hab. Sandwich Islands.

This has all the appearance of an unspotted variety of the preceding species, but it will be found to differ in form upon a careful comparison. It does not agree with Férussac's figure, Hist. Moll. pl. 155. f. 12, *Helix* (*Cochlogena*) *luteola*, representing an immature shell which I have not been able correctly to identify.

Species 34. (Fig. 34 and 41. Mus. Cuming.)

ACHATINELLA TURRITELLA. *Achat. testâ elongato-conicâ, subpyramidali, anfractibus septem, planiusculis, obliquè rudè striatis, ad suturas subcrenulatis, aperturâ parvâ, columellâ biplicatâ, appressâ; intensè castaneâ, fasciâ albidâ infra suturas.*

THE LITTLE TURRET ACHATINELLA. Shell elongately conical, somewhat pyramidal, whorls seven in number, flatly convex, obliquely rudely striated, slightly crenulated at the sutures, aperture small, columella two-plaited, appressed; dark chestnut, with a whitish band beneath the sutures.

FERUSSAC, Hist. Moll. pl. 155. f. 13.

Achatinella Oahuensis, Green.

Achatinella incarnata, Mighels.

Hab. Oahu, Sandwich Islands.

This species represents the most elongately turreted form of the genus.

Species 35. (Mus. Cuming.)

ACHATINELLA RADIATA. *Achat. testâ ovatâ, solidulâ, dextrorsâ, anfractibus convexis, obliquè striatis, superne subobscurè marginatis, columellâ brevi, plicato-contortâ, latè appressâ, labro subincrassato; luteo-albidâ, strigis lineisque intensè viridibus et nigris densissimè obliquè pictâ, columellâ labroque carneo-roseis.*

THE RAYED ACHATINELLA. Shell ovate, rather solid, dextral, whorls convex, obliquely striated, somewhat obscurely margined round the upper part, columella short, plicately twisted, broadly appressed, lip rather thickened; yellowish-white, obliquely very thickly painted with dark green and black streaks and lines, lip and columella flesh-pink.

PFEIFFER, Pro. Zool. Soc. 1845, p. 89.

Hab. Oahu, Sandwich Islands.

A very characteristic richly painted species, quite distinct from *A. viridans*.

Species 36. (Mus. Cuming.)

ACHATINELLA PICTA. *Achat. testâ acuminato-ovatâ, sinistrorsâ, anfractibus rotundatis, tumidiusculis, columellâ arcuatâ, valdè contorto-plicatâ; intecente, maculis flammisque nigris undique pictâ, columellâ et aperturæ margine intus livido-carneis.*

THE PAINTED ACHATINELLA. Shell acuminately ovate, sinistral, whorls rounded, rather swollen, columella arched, very much twisted-plaited; yellowish, painted throughout with black spots and flames, columella

and edge of the aperture stained within with livid flesh-colour.

MIGHELS, Pro. Boston Nat. Hist. Soc. 1845, p. 90.

Hab. Oahu, Sandwich Islands.

The elegant zigzag painting of this species is very similar to that of *A. venusta*.

Species 37. (Mus. Cuming.)

ACHATINELLA TRISTIS. *Achat. testâ globoso-ovatâ, subcylindraceâ, solidiusculâ, dextrorsâ, spirâ brevi, apice acutâ, anfractibus convexis, corrugato-striatis, columellâ arcuatâ, contorto-plicatâ; flavicante-lacteâ aut fusco-cerate, epidermide nigrâ fugaci indutâ, apice fusco-rubente.*

THE SAD ACHATINELLA. Shell globosely ovate, somewhat cylindrical, rather solid, dextral, spire short, acute at the apex, whorls convex, corrugately striated, columella arched, with a twisted plait; yellowish cream-colour or brownish, covered with a black fugacious epidermis, apex brown-red.

Helix (*Cochlogena*) *tristis*, Férussac, Prodrome, no. 435. *Achatinella fuliginosa*, Gould.

Hab. Sandwich Islands.

This and the following species belong to the same peculiar type as *A. centulus* of the preceding plate.

Species 38. (Mus. Cuming.)

ACHATINELLA STRAMINEA. *Achat. testâ acuminato-oblongâ, sinistrorsâ, anfractibus convexis, obliquè striatis, columellâ fortiter contorto-plicatâ; stramineâ, immaculatâ.*

THE STRAW-COLOURED ACHATINELLA. Shell acuminately oblong, sinistral, whorls convex, obliquely striated, columella strongly twisted-plaited; straw-coloured, unspotted.

Hab. Sandwich Islands.

This species is of a peculiar light straw-colour, and differs essentially in form from any of the preceding.

Species 39. (Mus. Cuming.)

ACHATINELLA NUCLEOLA. *Achat. testâ abbreviato-ovatâ, subgloboså, dextrorsâ, spirâ brevissimâ, anfractibus convexis, subtiliter striatis, ad suturas crenulatis, columellâ arcuatâ, contorto-plicatâ; rubente-castaneâ.*

THE KERNEL ACHATINELLA. Shell shortly ovate, somewhat globose, dextral, spire rather short, whorls convex, finely striated, crenulated at the sutures, columella arched, with a twisted plait; reddish-chestnut.

GOULD, Pro. Boston Nat. Hist. Soc. 1845, p. 28.

Achatinella brevis, Pfeiffer.

Hab. Sandwich Islands.

Very closely allied to *A. centulus*, but sufficiently distinguished by its more globose form, lighter red-brown colour, and more prominent abruptly truncated columella.

Species 40. (Mus. Cuming.)

ACHATINELLA MIGHELSIANA. *Achat. testâ acuminato-conicâ, dextrorsâ, anfractibus rotundatis, superne obsoletè marginatis, columellâ valdè contorto-plicatâ; opaco-albâ, lineis cinereis obscurè notatâ, anfractu ultimo lineâ ungustâ nigro-fuscâ cingulato, columellâ et apertura margine intus nigro-fusco tinctis.*

MIGHEL'S ACHATINELLA. Shell acuminately conical, dextral, whorls rounded, obsoletely margined round the upper part, columella strongly twisted-plaited; opake-white, faintly marked with ash lines, last whorl encircled with a narrow black-brown line, columella and edge of the aperture stained within with black-brown.

PFEIFFER, Pro. Zool. Soc. 1847, p. 231.

Hab. Molokai, Sandwich Islands.

Each example of this species in Mr. Cuming's collection is encircled round the lower part of the whorls by a dark line, which is concealed in all but the last, by the convolution of one whorl upon the other.

Fig. 41. (Mus. Cuming.)

ACHATINELLA TURRITELLA. Already described in this plate. For Sp. 41 see Pl. VI.

5.

4.

41.

43. a.

43. a.

43. b.

42. b

44. a

44. b.

45.

Sowerby, del. et lith.

Reeve, Benham & Reeve imp.

ACHATINELLA.

PLATE VI.

Species 4. (Mus. Cuming.)

ACHATINELLA CORNEOLA. *Achat. testâ oblongo-conicâ, anfractibus septem ad octo, convexis, subtiliter concentricè impresso-striatis, columellâ profundè arcuatâ, margine productâ et contortâ; subpellucido-corneâ.*

THE HORNY ACHATINELLA. Shell oblong-conical, whorls seven to eight in number, convex, finely concentrically impressly striated, columella deeply arched, produced and twisted at the edge; subtransparent horny.

PFEIFFER, Pro. Zool. Soc. 1845, p. 90.

Hab. Sandwich Islands.

Notwithstanding the marginal plait-structure of the columella, this and the two following species are very distinct from the true *Achatinellæ*. They belong rather to the small horny group of *Achatinæ*, among which I have already described some allied forms.

Species 5. (Mus. Cuming.)

ACHATINELLA CLARA. *Achat. testâ pyramidali-conicâ, anfractibus octo, convexis, subangustis, concentricè impresso-striatis, columellâ brevissimâ, contortâ, aperturâ parvâ; pellucido-corneâ, anfractuum margine juxta suturas reflexiusculo.*

THE CLEAR ACHATINELLA. Shell pyramidally conical, whorls eight in number, convex, rather narrow, concentrically impressly striated, columella rather short, twisted, aperture small; transparent horny, edge of whorls next the sutures marked with a red line.

PFEIFFER, Pro. Zool. Soc. 1845, p. 90.

Achatinella striatula, Gould.

Hab. Sandwich Islands.

Distinguished from the preceding species by its narrower turreted form, and less prominent columellar plait.

Species 41. (Mus. Cuming.)

ACHATINELLA PYRAMIS. *Achat. testâ acuminato-conicâ, anfractibus octo, planiconvexis, superne tenuimarginatis, obliquè sinuatè striatis, columellâ brevi, arcuatâ, aperturâ parviusculâ; virescente-corneâ.*

THE PYRAMID ACHATINELLA. Shell acuminately conical, whorls eight in number, flatly convex, finely margined round the upper part, obliquely minutely striated, columella short, arched, aperture rather small; greenish horn.

PFEIFFER, Pro. Zool. Soc. 1845, p. 90.

Hab. ——?

Distinguished by its more acuminate conical form.

Species 42. (Fig. *a*, *b*, Mus. Cuming.)

ACHATINELLA RUBENS. *Achat. testâ acuminato-oblongâ, dextrorsâ, solidiusculâ, anfractibus septem, planiconvexis, lævigatis, vel obliquè subirregulariter striatis, columellâ plicato-contortâ, aperturâ parviusculâ; rubeste-lacted, apice fuscâ, epidermide fuscâ fugaci indutâ, aperturæ fauce pleruinque roseâ.*

THE RUDDY ACHATINELLA. Shell acuminately oblong, dextral, rather solid, whorls seven in number, flatly convex, smooth, or obliquely somewhat irregularly striated, columella plicately twisted, aperture rather small; ruddy cream-colour, brown at the apex, covered with a brown fugacious epidermis, interior of the aperture mostly tinged with rose.

GOULD, Pro. Boston Soc. Nat. Hist. 1845, p. 27.

Hab. Sandwich Islands.

The shells here represented vary materially in form, but are doubtless different states of the same species.

Species 43. (Mus. Cuming.)

ACHATINELLA PERDIX. *Achat. testâ ovatâ, ventricosâ, tenuiculâ, dextrorsâ, spirâ exsertâ, apice subobtusâ, anfractibus sex, convexis, superne marginatis, lineis impressis flexuosis obliquè sculptâ, columellâ plicato-contortâ, subcallosâ; albidâ, olivaceo-fusco undique pictâ et variegatâ, suturis et columellâ albis.*

THE PARTRIDGE ACHATINELLA. Shell ovate, ventricose, rather thin, dextral, spire exserted, somewhat obtuse at the apex, whorls six in number, convex, margined round the upper part, obliquely sculptured with flexuous impressed lines, columella plicately twisted, rather callous; whitish; painted and variegated throughout with olive-brown, sutures and columella white.

Hab. ——?

This is a remarkable species, of a different type from

any other of the genus, compounded of *Bulimus* and *Achatinella*. With the generic callous twisted-plait columella of the latter genus, the shell is characterized by the form, substance, and design of colouring of the former.

Species 44. (Mus. Cuming.)

Achatinella plicata. *Achat. testâ acuminato-turritâ, gracili, tenuiculâ, sinistrorsâ, anfractibus sex, convexis, carinis spiralibus numerosis acutis undique sculptis, suturis subexcavatis, columellâ callosâ, plicâ obsoletâ, aperturâ parvâ, labro simplici; fuscescente-albâ, ad apicem obscurè fulguratâ.*

The plicate Achatinella. Shell acuminately turreted, slender, rather thin, sinistral, whorls six in number, convex, sculptured throughout with numerous sharp spiral keels, sutures rather excavated, columella callous, plait obsolete, aperture small, lip simple; brownish-white, obscurely waved at the apex.

Michels, MS. Pfeiffer, Mon. Helic. viv. vol. ii. p. 235.

Hab. Moko Kai, Sandwich Islands.

This also is of a different type from any of the preceding species, and one of very abnormal character. It is the only form that presents any external raised sculpture, and the plicate columella by which the genus is chiefly characterized is almost obsolete.

Species 45. (Mus. Cuming.)

Achatinella bacca. *Achat. testâ abbreviato-conicâ, dextrorsâ, subventricosâ, anfractibus convexis, superè marginatis, columellâ plicato-contortâ; intùs nigricante-castaneâ, suturis flavidis, columellâ pallidè rosaceâ.*

The berry Achatinella. Shell abbreviately conical, dextral, rather ventricose, whorls convex, margined round the upper part, columella plicately twisted; very dark chestnut, sutures yellowish, columella pinkish.

Hab. —— ?

The shell here described does not appear to have reached maturity, but, allowing for this, it is still characterized by a much wider and shorter plan of convolution than any of the species which have preceded it.

ACHATINELLA.

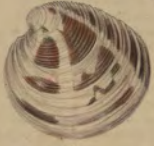
	Plate.	Species.
abbrevista, *Reeve*	III.	19
acuta, Swainson	II.	16
adusta, *Reeve*	IV.	30
bacca, *Reeve*	VI.	45
bella, *Reeve*	III.	17
bilineata, *Reeve*	III.	22
brevis, Pfeiffer	V.	39
Byronii, Gray	III.	23
Bulimoides, *Swainson*	I.	8
castanea, *Reeve*	III.	24
citrina, *Mighels*	V.	33
clara, *Pfeiffer*	VI.	5
colorata, *Reeve*	III.	18
cornecla, *Pfeiffer*	VI.	4
decora (*Helix*), Férussac	II.	12
fuliginosa, Gould	V.	37
Greenii, Gray	IV.	28
inornata, Mighels	V.	34
lorata (*Helix*), Férussac	I.	6
lugubris (*Turbo*), Chemn.	II.	10
microstoma, Gould	IV.	31
Mighelsiana, *Pfeiffer*	V.	40
mustelina, *Mighels*	III.	21
nubilosa, *Mighels*	I.	1
nucleola, *Gould*	V.	39
Oahuensis, Green	V.	34
olivacea, *Reeve*	III.	20
pallida, *Nuttall*	I.	2
perdix, *Reeve*	VI.	43
perversa, *Swainson*	II.	14
pica, Swainson	II.	10
picta, *Mighels*	V.	36
plicata, *Mighels*	VI.	44
prasinus, *Reeve*	IV.	27
producta, *Reeve*	II.	13
pulcherrima, *Swainson*	III.	23
pyramis, *Pfeiffer*	VI.	41
radiata, *Pfeiffer*	V.	35
Rhoëri, Pfeiffer	I.	3
rosea, *Swainson*	IV.	28
rubens, *Gould*	VI.	42
simulans, *Reeve*	II.	15
spirizona (*Helix*), Férussac	II.	16
Stewarti, *Green*	IV.	26
straminea, *Reeve*	V.	38
striatula, Gould	VI.	5
suffusa, *Reeve*	II.	11
tæniolata, *Pfeiffer*	I.	7
tristis (*Helix*), Férussac	V.	37
turritella (*Helix*), Férussac	V.	34
ventulus (*Helix*), Férussac	IV.	31
venusta, *Mighels*	V.	32
vestita, Mighels	II.	12
virgulata (*Partula*), Mighels	I.	3
viridans, *Mighels*	IV.	25
vittata, *Reeve*	II.	9
vulpina (*Helix*), Férussac	IV.	29

MONOGRAPH

OF THE GENUS

ARTEMIS.

"Maiden Sylph, oh, hear my prayer!
Let the lowly earth-born see
Something of thy mystery."—*Hunt.*



Sowerby del. et lith.

Reeve, Benham, & Reeve, imp.

ARTEMIS.

PLATE I.

Genus ARTEMIS, *Poli.*

Testa plus minus orbicularis, æquivalvis, inæquilateralis, concentricè striata aut lirata, rarò lævis, liris interdum ad latera laminatis, præcipuè ad latus posticum, aperè ligamenti interdum simplici, plerumque plus minus excavatâ, latere antico plerumque lunulato, lunulâ impressâ. Cardo fortis, dentibus tribus divergentibus in valvâ alterâ, in alterâ quatuor, ligamento subexterno. Impressiones musculares oblongæ, subæquales; pallii sinus impressio conspicuè lanceolato-trigona, subprofunda. Testa plerumque albida.

Shell more or less orbicular, equivalve, inequilateral, concentrically striated or ridged, rarely smooth, ridges sometimes laminated at the sides, especially at the posterior side, area of the ligament sometimes simple, generally more or less excavated, anterior side mostly impressly lunuled. Hinge strong, with three diverging teeth in one valve and four in the other, ligament subexternal. Muscular impressions oblong, nearly equal; impression of the sinus of the mantle conspicuously lanceolately triangular, rather deep. Shell mostly whitish.

The genus *Artemis* was introduced more than half a century ago, upon anatomical grounds, by Poli. The few species known to Linnæus, Chemnitz, and their contemporaries, were included under *Venus*, whilst Lamarck, regardless of the views of the Neapolitan malacologist, referred them to his genus *Cytherea*. *Artemis* differs from both of these genera in the form of the foot, in the siphons being united to their extremities, and in the mantle having a lanceolately triangular sinus, which is impressed in a very characteristic manner upon the interior of each valve of the shell. The peculiarities observable in the shell, in addition to that of the pallial sinus, are its orbicular, compressed form, its uniform concentric sculpture, and the general absence of colour and pattern. The shell rarely presents the polished smoothness or colouring of *Cytherea*, few species being so highly painted as the European *A. exoleta* and its exotic analogue, *A. cariegata*; neither has it the festooned or serrated varieties of sculpture so frequently presented in *Venus*. There is little variety in the general aspect of the *Artemides*, but they are well distinguished from each other in detail.

The geographical position of the genus is mainly in the eastern hemisphere. Of sixty-one species described in this monograph, the localities of forty-six are known as follows:—three inhabit the shores of Europe; five are from Korea, Japan, and China; eleven from the Philippines; two from the Moluccas, seven from Australia, and two from New Zealand; six from North Africa, none being found on the shores of this continent below the equator; and seven only from America.

The genus comprises about seven principal typical forms of species, each of which affects a different locality. *A. concentrica* and its congeners, the largest of the genus, inhabit the shores of Central America, between West Columbia and California; another species of this type, *A. Patagonica*, is recorded from the southern country whose name it bears, but I have not been able to authenticate this locality, and it seems doubtful. The remaining American species, *A. subquadrata*, is from Peru, and of very abnormal character; the shell being thin in substance, not symmetrically orbicular, and without a lunule. The Australian species are typified by the characteristic *A. incisa*, *lamellata*, and *scalaris*, the last of which is represented in the Philippine Islands by *A. juvenilis*, whilst *A. cariegata* is common to both these localities. *A. plana*, from the coast of China, has the valves remarkably flattened, and *A. exasperata*, from the Philippine Islands, is the type of another interesting group in which the concentric ridges are thin, and raised at the sides, chiefly the posterior, in squamate laminæ. A very singular form, with a supplementary lunule, *A. bilunulata*, is found at Japan; and, on the shores of the Red Sea, a type of totally different growth, contracted and gibbous, is represented by *A. trigona*.

Species 1. (Mus. Cuming.)

ARTEMIS ISOCARDIA. *Art. testâ cordato-ovatâ, altiore quam latâ, solidiusculâ, gibbosâ, concentricè acutè striatâ, striis subirregularibus, aperâ ligamenti excavatâ, lunulâ cordatâ, subcupidâ, parum concavo-impressâ; glaucâ, violaceo tinctâ.*

THE ISOCARDIA ARTEMIS. Shell cordately ovate, higher than broad, rather solid, gibbous, concentrically sharply striated, striæ somewhat irregular, area of the ligament excavated, lunule heart-shaped, rather large, but little concavely impressed; glaucous, tinged with violet.

DUNKER, Phil. Abbild. und Besch. Conch. *Cyth.* p. 36. pl. 8. f. 5.

Hab. —— ?

A solid, gibbous, heart-shaped species, approaching in form to Chemnitz's figure of *Venus contracta* (*Artemis contracta*, Philippi), which I have not been able to identify.

Species 2. (Mus. Cuming.)

ARTEMIS LINCTA. *Art. testâ orbiculari, crassâ, gibbosiusculâ, creberrimè tenuissimè et irregulariter concentricè striatâ, striis ad latera elevatiusculis, confertis, aperâ ligamenti subplanatâ, parum excavatâ, lunulâ oblongo-cordatâ, impressâ.*

THE SUCKED ARTEMIS. Shell orbicular, thick, rather gibbous, very closely, finely, and irregularly concen-

trically striated, striæ somewhat raised and thick-set at the sides, area of the ligament rather flattened, but little excavated, lunule oblong-cordate, impressed.

DESHAYES, Traité Elém. pl. 20. f. 12, 13.

Venus lincta, Pulteney.

Cytherea lincta, Lamarck.

Cytherea sinuata, Turton.

An eadem var. *Artemis compta*, Löven.

Hab. Southern Europe and the British Isles (from low-water mark to a depth of about sixty fathoms).

Species 3. (Mus. Cuming.)

ARTEMIS RUFA. *Art. testâ suborbiculari, crassiusculâ, subgibbosâ, concentricè liratâ, liris ad latera subprominentioribus, aréâ ligamenti subampli, excavatâ, lunulâ cordatâ, impressâ; ferrugineo-rufâ, variè albiradiatâ.*

THE RED ARTEMIS. Shell nearly orbicular, rather thick and gibbous, concentrically ridged, ridges rather more prominent, area of the ligament rather large, excavated, lunule cordate, impressed; rust-red, variously rayed with white.

Cytherea rufa, Lamarck, Anim. sans vert. (Deshayes' edit.) vol. vi. p. 311.

Hab. —— ?

Although readily distinguished from typical examples of *A. juvenilis*, many may incline, with M. Deshayes, to regard it as a variety of that species.

Species 4. (Mus. Cuming.)

ARTEMIS PONDEROSA. *Art. testâ suborbiculari, compressiusculâ, pauxillum latiore quam altâ, concentricè sulcatâ, sulcis medio ferè obsoletis, aréâ ligamenti simplici, lunulâ oblongo-cordatâ, concavo-impressâ; lacteâ, epidermide tenui corneâ nitente indutâ.*

THE PONDEROUS ARTEMIS. Shell nearly orbicular, rather compressed, a little broader than high, concentrically grooved, grooves almost obsolete in the middle, area of the ligament simple, lunule oblong-cordate, concavely impressed; cream-colour, covered with a thin, shining, horny epidermis.

GRAY, Analyst, 1838, vol. viii. p. 309.

Artemis gigantea, Philippi (fide Sowerby, MS. ined.)

Hab. Gulf of California (in sandy mud at low water).

This fine large species approaches very closely to the *A. concentrica*; it is of a more orbicular form, and the sculpture is less definitely engraved.

Species 5. (Mus. Cuming.)

ARTEMIS JUVENILIS. *Art. testâ suborbiculari, crassiusculâ, concentricè tenuiratâ, liris ad latera sublamellatis, aréâ ligamenti subampli, excavatâ, lunulâ cordatâ, plano-impressâ; albâ, biradiatâ, rufo maculatâ.*

THE YOUTHFUL ARTEMIS. Shell nearly orbicular, rather thick, concentrically finely ridged, ridges slightly lamellated at the sides, area of the ligament rather large, excavated, lunule cordate, finely impressed; white, two-rayed, blotched with rust-red.

Venus juvenilis, Gmelin, Syst. Nat. p. 3287.

Venus juvenis, Chemnitz.

Hab. Bay of Manila, Island of Luzon, Philippines (in sandy mud); Cuming.

The colouring of this species is very similar to that of the Australian *A. scalaris*, of which it might easily be taken for a dwarf variety.

Species 6. (Mus. Cuming.)

ARTEMIS CHINENSIS. *Art. testâ subquadrato-orbiculari, tenuiculâ, valdè gibbosâ, concentricè subirregulariter striatâ, striis elevatiusculis, striis aliis tenuibus impressis radiantibus decussatis, aréâ ligamenti simplici, lunulâ nullâ, marginibus intus crenulatis; albidâ, ferrugineo tinctâ, marginem versus cinereo-cæruleascente.*

THE CHINESE ARTEMIS. Shell somewhat squarely orbicular, rather thin, very gibbous, concentrically rather irregularly striated, striæ somewhat raised, crossed with other thin impressed radiating striæ, area of the ligament simple, no lunule, margins crenulated within; whitish, tinged with rust-brown, coloured with ash-blue towards the margin.

Venus Chinensis, Chemnitz, Conch. Cab. vol. x. p. 356. pl. 171. f. 1663.

Cyprina tenuistria, Lamarck.

Hab. China, Korea.

This species has the characteristic pallial impression of *Artemis*, although the shell, having no lunule, is somewhat of an abnormal form. It was certainly incorrectly placed by Lamarck in the genus *Cyprina*. It ranges from China as far north as the islands of the Korea Archipelago, where the species is abundant and the animal is eaten by the inhabitants as a common article of food. Some specimens are much more gibbous, or rather globose, in their growth than others. The colour most inclines to bluish lavender or ash towards the margin.

Species 7. (Mus. Cuming.)

ARTEMIS HEPATICA. *Art. testâ subquadrato-orbiculari, tenuiculâ, compressâ, concentricè tenuissimè striatâ, sub lente striis tenuissimis radiantibus impressâ, aréâ ligamenti simplici, lunulâ subelongato-cordatâ, superficiarii, vix nullâ; livido-cæruleascente, umbonibus pallidè rufescentibus aut flavidis, intus violaceâ.*

THE LIVER-COLOURED ARTEMIS. Shell somewhat squarely orbicular, rather thin, compressed, concentrically very finely striated, impressed beneath the lens with very fine radiating striæ, area of the ligament simple, lunule rather elongately cordate, superficial, scarcely any; livid-blue, umboes pale reddish or yellowish, interior violet.

PHILIPPI, Abbild. und Besch. Conch. *Cyth.* pl. 4. pl. 2. f. 3.

Hab. —— ?

Like the preceding species in form, only that it is much smaller and flattened. It is faintly impressed with radiating striæ, and there is little indication of any lunule.

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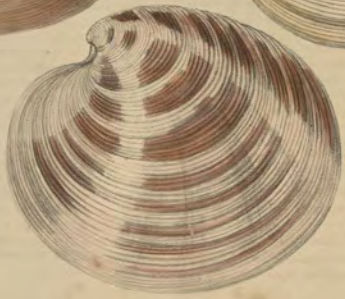

11.

Drawn by Art. et Sc.

Reeve, Benham & Reeve imp.

ARTEMIS.

PLATE II.

Species 8. (Mus. Cuming.)

ARTEMIS CONCENTRICA. *Art. testâ transversè ovatâ, latiore quam altâ, compressâ, posticè subproductâ, concentricè creberrimè inciso-sulcatâ, sulcis vix profundis, aream ligamenti simplici, lunulâ cordatâ; albâ, epidermide straminea indutâ.*

THE CONCENTRIC ARTEMIS. Shell transversely ovate, broader than high, compressed, somewhat produced posteriorly, concentrically very closely grooved, grooves not very deep, area of the ligament simple, lunule heart-shaped; white, covered with a straw-coloured epidermis.

Venus concentrica, Gmelin, Syst. Nat. p. 3286.

Hab. Porto Portrero, Central America; Cuming.

It is impossible exactly to determine which species Gmelin intended for the type of his *Venus concentrica*; and of succeeding authors, some have figured one for it, some another. The shell here represented seems best to agree with the figures of Lister and Chemnitz.

Species 9. (Mus. Cuming.)

ARTEMIS DISCUS. *Art. testâ tenuiculâ, transversè ovatâ, posticè subquadratâ, latiore quam altâ, valdè compressâ, concentricè subtilissimè inciso-striatâ, liris intermediis ad latera subobsoletis et numero decrescentibus, aream ligamenti simplici, lunulâ rotundato-cordatâ; albidâ, fascia pallidè ferruginea, interdum autem obscurè tinctâ, epidermide tenui corneâ indutâ.*

THE QUOIT ARTEMIS. Shell rather thin, transversely ovate, posteriorly somewhat square, broader than high, very compressed, concentrically very finely engraved with striæ, intermediate ridges rather obsolete and decreasing in number at the sides, area of the ligament simple, lunule rotundately heart-shaped; whitish, sometimes, but obscurely, stained with light rust bands, and covered with a thin horny epidermis.

Hab. United States.

This fine species is chiefly distinguished by its compressed growth and fine sculpture.

Species 10. (Mus. Cuming.)

ARTEMIS ANUS. *Art. testâ subquadrato-orbiculari, crassâ, compresso-convexâ, concentricè rugoso-liratâ, liris hic illic divaricatis, ad latera numero multò decrescentibus, sed corrugatis et lamellaribus, præcipuè ad posticum, aream ligamenti excavatâ, lunulâ oblongo-cordatâ, profundè impressâ; carneo-albâ, margineque versus et ad umbones rufescentibus.*

THE SHRIVELLED ARTEMIS. Shell somewhat squarely orbicular, thick, compressly convex, concentrically rugosely ridged, ridges here and there divaricate, considerably decreasing in number at the sides, but shrivelled and lamellar, especially at the posterior side, area of the ligament excavated, lunule oblong-cordate, deeply impressed; flesh-white, reddish at the umboes and towards the margin.

PHILIPPI, Abbild. und Besch. Conch. vol. iii. p. 23. *Cyth.* pl. 8. f. 1.

Hab. New Zealand; Earl.

This fine species, which is of rather solid growth, is chiefly characterized by the manner in which the concentric ridges divaricate on the posterior side into comparatively distant wrinkled lamellæ. The brick-red tinge of colouring upon the umboes and towards the margin, is also peculiar. The lunule is rather deeply sunk.

Species 11. (Mus. Cuming.)

ARTEMIS SCALARIS. *Art. testâ suborbiculari, aliquantò latiore quam altâ, concentricè creberrimè liratâ, liris in medio appressis, ad latera angustioribus, sublamellaribus, aream ligamenti simplici, lunulâ cordatâ; albidâ, spadiceo-rufo plus minusve tinctâ aut fasciatâ.*

THE STEP-LADDER ARTEMIS. Shell somewhat orbicular, a little broader than high, concentrically very closely ridged, ridges appressed in the middle, narrower and somewhat lamellar at the sides, area of the ligament simple, lunule cordate; whitish, more or less stained and banded with fawn-red.

Cytherea scalaris, Menke, Moll. Nov. Holl. p. 42. no. 341.

Hab. Mouth of the Swan River, New Holland.

The *Artemides* have so little of colour, that where it is present it forms a characteristic feature. This beautiful Australian species may be readily known by its peculiar fawn-red colouring, as well as by the arrangement of the concentric ribs, which, instead of becoming less numerous at the sides as in most species, converge together without diminishing in number, by growing narrower, closer, and more elevated.

12.

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Sowerby del. et lith.

Reeve, Bentham, & Reeve imp.

ARTEMIS.

PLATE III.

Species 12. (Mus. Cuming.)

ARTEMIS SITENS. *Art. testâ suborbiculari, compressâ, aliquantò latiore quam altâ, concentricè inciso-sulcatâ, liris intermediis, appressis, aream ligamenti simplici, lunulâ cordatâ; albâ, epidermide tenui, corneâ, nitente, indutâ.*

THE SHINING ARTEMIS. Shell nearly orbicular, compressed, a little broader than high, concentrically engraved with grooves, intermediate ridges appressed, area of the ligament simple, lunule cordate; white, covered with a thin, shining, horny epidermis.

Hab. —— ?

Very like *A. zigzatus* in general aspect, but not agreeing sufficiently in form to be considered as the young of it. The umboes are more produced, whilst the shell is compressed and proportionably wider.

Species 13. (Mus. Cuming.)

ARTEMIS LAMELLATA. *Art. testâ suborbiculari, compressiusculâ, aliquantò latiore quam altâ, circa umbones subtilissimè striatâ, deindè sulcatâ et lamellatâ, lamellis binis acutis, umbones versus inclinatis, ad latera paucioribus, elevatis, aream ligamenti subexcavatis, lamellatis, lunulâ oblongo-cordatâ, subprofundâ; albâ.*

THE LAMELLATED ARTEMIS. Shell nearly orbicular, rather compressed, a little broader than high, very finely striated around the umboes, then grooved and lamellated, lamellæ two and two, sharp, at the sides fewer and more elevated, area of the ligament slightly excavated, lamellated, lunule oblong-cordate, rather deep; white.

Hab. North Australia; Jukes.

Distinguished from all the species by its sharp, concentric lamellæ, which are slightly inclined back towards the umboes.

Species 14. (Mus. Cuming.)

ARTEMIS SCABRIUSCULA. *Art. testâ suborbiculari, convexâ, solidiusculâ, viz latiore quam altâ, posticè supernè subangulatâ, concentricè tenuissimè et creberrimè liratâ, liris all latera acutè lamellaribus, aream ligamenti latè excavatâ, lamellatâ, margine subspinosâ, lunulâ cordatâ, profundè impressâ; albâ.*

THE ROUGHENED ARTEMIS. Shell nearly orbicular, convex, rather solid, scarcely broader than high, posteriorly slightly angled at the upper part, concentrically very finely and closely ridged, sharply lamellar at the sides, area of the ligament broadly excavated, lamellated, somewhat spinose at the margin, lunule heart-shaped, deeply impressed; white.

PHILIPPI, Abbild. und Besch. Conch. vol. ii. p. 230. *Cyth.* pl. 5. f. 2.

Hab. —— ?

Of more solid growth than the preceding species, with the ridges less eminently raised in lamellæ at the sides, notwithstanding that they are more spinose on the posterior angle, owing to the deeper excavation of the ligamentary area.

Species 15. (Mus. Cuming.)

ARTEMIS SUBQUADRATA. *Art. testâ subquadrato-orbiculari, tenui, medio tumidiusculâ, basin versus obscurè attenuatâ, concentricè creberrimè et subtilissimè striatâ, aream ligamenti simplici, lunulâ nullâ; sordidè albâ, epidermide tenuissimâ indutâ.*

THE SQUARE-INCLINED ARTEMIS. Shell somewhat squarely orbicular, thin, rather swollen in the middle, obscurely attenuated towards the base, concentrically very closely and finely striated, area of the ligament simple, no lunule; dead white, covered with a very thin epidermis.

HANLEY, Wood, Index Test. Supp. Pl. 15. f. 39.

Hab. St. Elena, West Columbia (in sandy mud at low water), and Lobos Island, Peru (in sandy mud at a depth of from six to seventeen fathoms); Cuming.

This species is typically distinct from all others of the genus, very thin and tumid, without any lunule.

Species 16. (Mus. Cuming.)

ARTEMIS INCISA. *Art. testâ orbiculari, convexo-compressâ, undique conspicuè concentricè inciso-sulcatâ, liris intermediis regularibus, appressis, ad latera subacutis, aream ligamenti simplici, lunulâ oblongo-cordatâ, impressâ; nitidè albâ.*

THE ENGRAVED ARTEMIS. Shell orbicular, convexly compressed, conspicuously concentrically sharply

grooved throughout, intermediate ridges regular, appressed, rather sharp at the sides, area of the ligament simple, lunule oblong-cordate, impressed; shining white.

Hab. North Australia; Jukes.

Allied to the typical species of the genus *A. concentrica*, from which it differs mainly in being more truly orbicular.

Species 17. (Mus. Cuming.)

Artemis Japonica. *Art. testâ suborbiculari, compressâ, aliquantò latiore quam altâ, posticè supernè angulosâ, concentricè subtiliter elevato-striatâ, striis ad latera paucioribus, sublamellatis, areâ ligamenti latè excavatâ, margine subproductâ et obscurè spinosâ, lunulâ oblongo-cordatâ, impressâ; sordidè carneo-cinerascente.*

The Japan Artemis. Shell nearly orbicular, a little broader than high, posteriorly angular along the upper part, concentrically finely elevately striated, striæ fewer and slightly lamellated at the sides, area of the ligament broadly excavated, somewhat produced and obscurely spinose along the edge, lunule oblong-cordate, impressed; dull flesh-tinged ash-colour.

Hab. Japan; Dr. Siebold.

A very characteristic species, of quite a different type from those of North Australia, being closely sculptured with sharp, raised striæ, which diminish materially in number at the sides and incline to form lamellæ.

Species 18. (Mus. Cuming.)

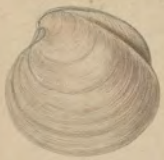
Artemis plana. *Art. testâ orbiculari, superiùs subacuminatâ, peculiariter plano-compressâ, concentricè subtilissimè et creberrimè striatâ, striis medio plus minus obsoletis, areâ ligamenti simplici, lunulâ oblongo-cordatâ, umbonibus parvis; albâ, epidermide cornea tenuissimâ marginem versus indutâ.*

The flat Artemis. Shell orbicular, somewhat acuminated towards the upper part, peculiarly flatly compressed, concentrically very finely and closely striated, striæ more or less obsolete in the middle, area of the ligament simple, lunule oblong-cordate, umbones small; white, covered towards the margin with a thin horny epidermis.

Hab. China.

Remarkable for its thin, compressly flattened growth, whilst the concentric sculpture is so fine that it might escape observation.

19.



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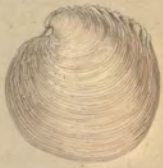

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24.

25.

Bowerbank del. et lith.

Reeve, Benham & Reeve imp.

ARTEMIS.

PLATE IV.

Species 19. (Mus. Cuming.)

ARTEMIS SUBROSEA. *Art. testâ suborbiculari, aliquantò latiore quam altâ, convexâ, concentricè nitidè creberrimè elevato-striatâ, striis ad latera vix elevatioribus, areâ ligamenti subexcavatâ, lunulâ cordatâ, impressâ; pallidè rosaceo-spadiceâ.*

THE ROSE-TINGED ARTEMIS. Shell nearly orbicular, a little broader than high, convex, concentrically very closely sculptured with neat raised striæ, which are scarcely more elevated at the sides, area of the ligament slightly excavated, lunule cordate, impressed; pale pinkish-fawn.

GRAY, Yates' New Zealand, p. 309.

Hab. New Zealand.

A. subrosea approaches very nearly in form, colour, and sculpture, to the *A. Japonica*; which is remarkable in two species from such distant localities. The area of the ligament is more widely excavated in the latter, and the striæ inclined to become lamellated at the sides.

Species 20. (Mus. Cuming.)

ARTEMIS ALATA. *Art. testâ suborbiculari, supernè attenuatâ, aliquantò altiore quam latâ, compresso-planâ, posticè peculiariter sulcatâ, deinde alatâ, concentricè subtilissimè inciso-striatâ, sublævigatâ; albâ, epidermide tenuissimâ marginem versus indutâ.*

THE WINGED ARTEMIS. Shell nearly orbicular, attenuated at the upper part, a little higher than broad, compressly flattened, peculiarly grooved, and then winged posteriorly, concentrically very finely sculptured with engraved striæ, rather smooth; white, covered towards the margin with a very thin epidermis.

Hab. —— ?

Distinguished from all other species of the genus by the peculiar winged structure of the upper posterior margin.

Species 21. (Mus. Cuming.)

ARTEMIS EXASPERATA. *Art. testâ subquadrato-orbiculari, concentricè irregulariter sulcatâ, liris subundatis, hic illic convergentibus, ad latera prominentioribus, interruptis et corrugatis, ad marginem conspicuè squamato-lamellatis, erectis, areâ ligamenti latè excavatâ, lævigatâ, lunulâ cordatâ, lineâ profundè impressâ circumscriptâ; lacteâ.*

THE SHARP ARTEMIS. Shell somewhat squarely orbicular, concentrically irregularly grooved, ridges slightly waved, here and there converging together, more prominent at the sides, interrupted and wrinkled, conspicuously elevated at the margin into squamate lamellæ, area of the ligament broadly excavated, smooth, lunule cordate, surrounded with a deeply impressed line; cream-colour.

PHILIPPI, Abbild. und Besch. Conch. vol. iii. p. 24. *Cyth.* pl. 8. f. 4.

Hab. Bay of Manilla, Island of Luzon, Philippines (in sandy mud); Cuming.

Very distinctly characterized by the irregular wrinkled growth of the concentric ridges, and by the manner in which they are elevated into lamellar scales along the posterior margin.

Species 22. (Mus. Brit.)

ARTEMIS BILUNULATA. *Art. testâ subtrigono-orbiculari, supernè attenuatâ, compressâ, planatâ, concentricè tenuissimè striatâ, striis ad latera subprominentioribus, in squamis lamellæformibus terminatis, ad latus anticum ante marginem lunulam secundam formantibus, areâ ligamenti latissimè excavatâ, lævigatâ, lunulâ primâ cordatâ, subprofundè impressâ, secundâ oblongo-cordatâ, multò majore; albâ, radiis pallidè roseis interruptis concinnè pictâ.*

THE DOUBLE-LUNULED ARTEMIS. Shell somewhat triangularly orbicular, attenuated at the upper part, compressed, flattened, concentrically very finely striated, striæ rather more prominent at the sides, terminating in lamellæform scales, before reaching the edge on the anterior side forming a second lunule, area of the ligament very broadly excavated, smooth, first lunule cordate, rather deeply impressed, second lunule oblong-cordate, much the larger; white, prettily painted with light rose interrupted rays.

GRAY, Analyst Quart. Journ. 1838, Part 24. p. 309.

Hab. Japan; Dr. Siebold.

An extremely interesting species, remarkable for the second lunule, which is formed by the ridges terminating

in lamellæform series before reaching the edge of the shell. The coloured rays constitute also a characteristic feature in this comparatively colourless genus.

Species 23. (Mus. Cuming.)

ARTEMIS PROSTRATA. *Art. testâ quadrato-orbiculari, valdè depressâ, concentricè liratâ, liris ad latera irregulariter convergentibus et corrugatis, marginem versus lamellaribus et squamatis, aream ligamenti subexcavatâ, lunulâ elongato-cordatâ; sordidè fuleâ.*

THE FLATTENED ARTEMIS. Shell squarely orbicular, very depressed, concentrically ridged, ridges converging irregularly at the sides and wrinkled, lamellar and squamate towards the margin, area of the ligament slightly excavated, lunule elongately cordate; dull fulvous colour.

Venus prostrata, Linnæus, Syst. Nat. (12th. edit.) p. 1133. Enc. Méth. pl. 277. f. 1.

Hab. Mouth of the Swan River, New Holland; Collie.

Peculiarly inclined to grow square, and further characterized by the irregular converging together and wrinkling of the ridges.

Species 24. (Mus. Cuming.)

ARTEMIS CORRUGATA. *Art. testâ suborbiculari, aliquantò latiore quam altâ, tenui, convexâ, concentricè striatâ, striis in medio ferè obsoletis, ad latus posticum liras convergentes et corrugatas formantibus, ad latus anticum ramis elevatis, longitudinaliter lineis indentatis obsoletè radiatâ, aream ligamenti simplici, lunulâ suboblongo-cordatâ; sordidè spadiceo-albâ.*

THE WRINKLED ARTEMIS. Shell nearly orbicular, a little broader than high, thin, convex, concentrically striated, striæ almost obsolete in the middle, forming wrinkled and converging ridges at the posterior side, much less elevated on the anterior side, longitudinally obsoletely rayed with indented lines, area of the ligament simple, lunule oblong-cordate; dull fawn white.

Hab. ——?

A light, thin species, with a greater difference between the sculpture of the middle and sides of the shell than usual.

Species 25. (Mus. Brit.)

ARTEMIS CÆRULEA. *Art. testâ orbiculari, medio convexo-tumidâ, posticè subangulatâ, crassâ, concentricè subtiliter elevato-striatâ, aream ligamenti sublatè excavatâ, lunulâ cordatâ; albidâ, umbones versus rosaceo et cæruleo tinctâ.*

THE BLUE-TINGED ARTEMIS. Shell orbicular, convexly tumid in the middle, posteriorly slightly angled, thick, concentrically finely elevately striated, area of the ligament rather broadly excavated, lunule cordate; whitish, tinged with pink and blue towards the umbones.

Hab. Raines' Island, Torres Straits; Captain Ince.

A solid species, in which the concentric striæ are not more prominent at the sides than elsewhere; whilst the delicate pink and blue colouring about the umbos is characteristic.

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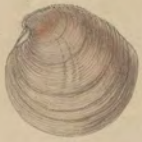

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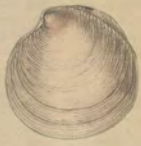

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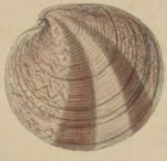
29. a.



29. b.

30.

31.

Sowerby. del. et lith.

Reeve Benham. & Reeve imp.

ARTEMIS.

PLATE V.

Species 26. (Mus. Cuming.)

ARTEMIS FIBULA. *Art. testâ orbiculari, crassiusculâ, plano-convexâ, concentricè creberrimè tenuistriatâ, striis ad latera subelevatioribus, areâ ligamenti subampliter excavatâ, lunulâ cordatâ, profundè impressâ; lutescente-albâ.*

THE BUTTON ARTEMIS. Shell orbicular, rather thick, flatly convex, concentrically very closely finely striated, striæ rather more elevated at the sides, area of the ligament rather largely excavated, lunule heart-shaped, deeply impressed; yellowish-white.

Hab. Mouth of the Gambia, West Africa.

Principally remarkable for the deeply impressed growth of the lunule.

Species 27. (Mus. Cuming.)

ARTEMIS AFRICANA. *Art. testâ suborbiculari, umbones versus subtentenâ, compresso-convexâ, concentricè tenuistriatâ, striis ad latera subelevatioribus, areâ ligamenti conspicuè lanceolato-excavatâ, lunulâ cordatâ, subprofundè impressâ; fuscescente-albâ, umbones versus pellucido-cornei tinctâ, intus sæpè fusco-rubente.*

THE AFRICAN ARTEMIS. Shell nearly orbicular, slightly attenuated towards the umboes, compressly convex, concentrically finely striated, striæ rather more elevated at the sides, area of the ligament conspicuously lanceolately excavated, lunule cordate, rather deeply impressed; brownish-white, stained with transparent flesh-colour towards the umboes, interior often brownish-red.

GRAY, Analyst, 1838, vol. viii. p. 309.

Le Desis, Adanson.

Artemis Adansoni, Philippi.

Hab. Senegal, West Africa.

The transparent flesh-tinge around the umboes of this species, forms one of its characteristic peculiarities.

Species 28. (Mus. Cuming.)

ARTEMIS CÆLATA. *Art. testâ subquadrato-orbiculari, tenuiculâ, compressâ, concentricè subtilissimè striatâ, striis creberrimis, ad latera multò paucioribus, subcorrugatis, areâ ligamenti simplici, areâ secundâ subexcavatâ, tenuè laminatâ, circumdatâ, lunulâ subelongato-cordatâ; albâ, umbonibus flavicantibus.*

THE CARVED ARTEMIS. Shell somewhat squarely orbicular, rather thin, compressed, concentrically very finely striated, striæ very close-set, much fewer in number at the sides, slightly corrugate, area of the ligament simple, surrounded by a second slightly excavated thinly laminated area, lunule rather elongately cordate; white, umboes yellowish.

Hab. Catanauu, Island of Luzon, Philippines (in fine sand at low water); Cuming.

Characterized in an especial manner on the posterior side by a delicately carved supplementary area.

Species 29. (Fig. *a* and *b*, Mus. Cuming.)

ARTEMIS EXOLETA. *Art. testâ vix quadrato-orbiculari, concentricè irregulariter rudè striatâ, areâ ligamenti simplici, angustâ, lunulâ oblongo-cordatâ, subimpressâ; lacteâ, fuscescente-rufo obscurè radiatâ aut promiscuè variegatâ, lunulâ fuscescente.*

THE WORN ARTEMIS. Shell slightly squarely orbicular, concentrically irregularly rudely striated, area of the ligament simple, narrow, lunule oblong-cordate, rather impressed; cream-colour, obscurely rayed or promiscuously variegated with brownish-red, lunule brownish.

DESHAYES, Traité Elém. pl. 20. f. 9–11.

Venus exoleta, Linnæus.

Pectunculus capillaceus, Da Costa.

Cytherea exoleta, Lamarck.

Hab. British and European shores (in sandy ground from low-water mark to a depth of from seventy to eighty fathoms).

A curious transition may be traced from this well-known European species, into *A. variegata*, inhabiting the Eastern Seas between the Philippine Islands and Australia.

Species 30. (Mus. Cuming.)

ARTEMIS CUMINGII. *Art. testâ vix orbiculari, posticè conspicuè angulato-productâ et truncatâ, concentricè subtilissimè et creberrimè striatâ, striis ad latera con-*

vergentibus, extremitatibus per marginem posticum squamato-laminatis, areâ ligamenti peramplâ, latâ, parùm excavatâ, lunulâ cordatâ, impressâ; albidâ, ferrugineo-fusco eximiè tinctâ et radiatâ.

CUMING'S ARTEMIS. Shell scarcely orbicular, conspicuously angularly produced and truncated behind, concentrically very finely and closely striated, striæ converging at the sides, the extremities being squamately laminated along the posterior margin, area of the ligament very large, broad, but little excavated, lunule cordate, impressed; whitish, delicately stained and rayed with rust-brown.

Hab. San Nicolas, Island of Zebu, Philippines (in sandy mud); Cuming.

A very distinct species, remarkable for its angularly produced growth posteriorly, and the spacious ligament-area thereby occasioned.

Species 31. (Mus. Cuming.)

ARTEMIS GRUNERI. *Art. testâ orbiculari, posticè subangulatâ, umbones versus paululum attenuatâ, compressiusculâ, concentricè creberrimè striatâ, striis ad latera convergentibus, per marginem posticum sublaminatis, areâ ligamenti peramplâ, parùm excavatâ, lunulâ cordatâ, impressâ; albâ, umbonibus flavicantibus.*

GRUNER'S ARTEMIS. Shell orbicular, slightly angled posteriorly, a little attenuated towards the umbos, rather compressed, concentrically very closely striated, striæ converging at the sides, slightly laminated along the posterior margin, area of the ligament very large, but little excavated, lunule cordate, impressed; white, umboes yellowish.

PHILIPPI, Abbild. und Besch. Conch. *Cyth.* p. 35. pl. 8. f. 2.

Hab. China.

Allied in form and general character to *A. Africana*, but of larger dimensions.

32.

33. *a.*

33. *b.*

34.

33. *c.*

35.

36.

Sowerby del. et lith.

Reeve, Bonham, & Reeve imp.

ARTEMIS.

PLATE VI.

Species 32. (Mus. Cuming.)

ARTEMIS PENICILLATA. *Art. testâ subquadrato-orbiculari, tenuiculâ, compressâ, concentricè subtiliter et crebrerimè striatâ, areâ ligamenti vix excavatâ, lunulâ oblongo-cordatâ, subobsoletâ; carneo-albidâ, lineis tenuibus nigricantibus interruptis, marginem versus peculiariter radiatâ.*

THE PENCILLED ARTEMIS. Shell somewhat squarely orbicular, rather thin, compressed concentrically finely and very closely striated, area of the ligament scarcely excavated, lunule oblong-cordate, rather obsolete; flesh-white, peculiarly rayed with fine interrupted blackish lines.

Hab. —— ?

The radiating interrupted lines of this species have the appearance of light pencillings.

Species 33. (Fig. *a*, *b*, *c*, Mus. Cuming.)

ARTEMIS VARIEGATA. *Art. testâ orbiculari, nunc tumidiusculâ, nunc compressâ, concentricè liratâ, liris interdum subtilibus numerosis, interdum subluminatis, laminis umbones versus reflexis, areâ ligamenti vix excavatâ, lunulâ cordatâ, impressâ; albidâ, fasciis tribus rufo-castaneis plus minus distinctè radiatâ, interstitiis lineis flexuosis, sæpè interruptis, lunulâ fuscâ, umbonibus interdum roseis, areâ ligamenti fusco tesellatâ.*

THE VARIEGATED ARTEMIS. Shell orbicular, sometimes rather swollen, sometimes compressed, concentrically ridged, ridges sometimes fine and numerous, sometimes slightly laminated, the laminæ being reflected towards the umbones, area of the ligament slightly excavated, lunule cordate, impressed; whitish, more or less distinctly rayed with three reddish-chestnut bands, of which the interstices are painted with flexuous lines often interrupted, lunule brown, umbones sometimes pink, area of the ligament tessellated with brown.

GRAY, Analyst, 1838, vol. viii. p. 309.

Venus exoleta variegata, Chemnitz.

Venus australis, Quoy and Gaimard (not of Gmelin or Chemnitz).

Arlesia australis, Philippi.

Hab. Philippine Islands, Moluccas, Australia.

The present species, like all those of wide geographical distribution, is an extremely variable one. In the specimen represented at Fig. 33 *b*, from the Moluccas, which may be regarded as the type, the ridges are more distant, and the painting darker and more exact; in that at Fig. 33 *c*, the ridges are much finer and close-set, the colouring is fainter, and a curious transition is presented to the British *A. exoleta*, through the variety figured in Pl. V. Fig. 29 *b*. The most distinct variety of *A. variegata* is that from Australia represented at Fig. 33 *a*, in which the shell is more compressed, the ridges more laminated, and the colouring paler and more broken. The tessellated painting of the ligament-area and the dark colour of the lunule are characteristic in all the varieties.

Species 34. (Mus. Cuming.)

ARTEMIS DUNKERI. *Art. testâ subtrigono-orbiculari, undique regulariter concentricè sulcatâ, areâ ligamenti simplici, lunulâ suboblongo-ovatâ, parùm impressâ; albâ, ultente.*

DUNKER'S ARTEMIS. Shell somewhat triangularly orbicular, regularly concentrically grooved throughout, area of the ligament simple, lunule rather oblong-ovate, but little impressed; white, shining.

PHILIPPI, Abbild. und Besch. Conch. *Cyth.* p. 4. pl. 2. f. 5.

Hab. St. Elena and Panama, Central America (from sandy mud at low water); Cuming.

A fine species, sculptured with great regularity, belonging to the same typical section of the genus as *A. concentrica*.

Species 35. (Mus. Cuming.)

ARTEMIS CRETACEA. *Art. testâ orbiculari, crassâ, posticè subflexuosâ, concentricè tenuè striatâ, striis ad latera elevatioribus, præcipuè per marginem posticum, areâ ligamenti subexcavatâ, lunulâ cordatâ, impressâ; albâ.*

THE CHALK ARTEMIS. Shell orbicular, thick, posteriorly rather flexuous, concentrically finely striated, striæ more elevated at the sides, especially along the posterior margin, area of the ligament rather largely excavated, lunule heart-shaped, impressed; white.

Hab. Manilla, Island of Luzon; Cuming.

The striæ have all the appearance of fine delicate cords.

Fig. 36. (Mus. Cuming.)

This shell proves to be identical with that represented above at Fig. 32—*A. penicillata*. It agrees with it in form and sculpture, whilst the faint radiating interrupted lines which characterize that shell are present in this, though not sufficiently distinct to claim the attention of the artist.

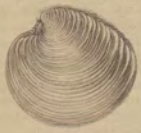
For Sp. 36 see Pl. VIII.

37.

38.

39.

40.



41.

42.

43.

Sowerby lith. et imp.

Dove Brothers, & Reeve imp.

ARTEMIS.

PLATE VII.

Species 37. (Mus. Cuming.)

ARTEMIS RADIATA. *Art. testâ orbiculari, posticè subfalcato-contortâ, concentricè crebriliratâ, liris subirregularibus, scabriusculis, areâ ligamenti simplici, lunulâ suboblongo-cordatâ, impressâ; albidâ, fuleo-rosaceo radiatâ.*

THE RAYED ARTEMIS. Shell orbicular, posteriorly somewhat flexuously contorted, concentrically closely ridged, ridges somewhat irregular, rather rough, area of the ligament simple, lunule rather oblong-cordate, impressed; whitish, rayed with fulvous pink.

Hab. Mouth of the Gambia, West Africa.

The rayed painting of this species is somewhat faint and broken, but very characteristic.

Species 38. (Mus. Cuming.)

ARTEMIS CONTUSA. *Art. testâ subglobosâ, crassâ, anticè subtrigonâ, concentricè impresso-striatâ, liris intermedio planulatis, nitentibus, areâ ligamenti latiusculâ, subexcavatâ, lunulâ latè cordatâ, impressâ; albidâ, umbones versus lividâ, areâ ligamenti livido-violaceâ.*

THE BRUISED ARTEMIS. Shell somewhat globose, thick, triangularly inclined anteriorly, concentrically impressly striated, intermediate ridges flattened, shining, area of the ligament rather broad, slightly excavated, lunule broadly cordate, impressed; whitish, livid towards the umbones, area of the ligament livid-violet.

Hab. Point Cunningham, North Australia; Dring.

A stout, gibbous shell, characterized by a peculiar tinge of violet livid colouring around the umbones, and within the area of the ligament, which is rather broadly, but not deeply, excavated.

Species 39. (Mus. Cuming.)

ARTEMIS SIEBOLDII. *Art. testâ orbiculari, convexâ, concentricè sublîliter et creberrimè liratâ, liris ad latera, præcipuè ad posticum, multò paucioribus, divaricatis et corrugatis, squamarum grandium serie unicâ per marginem posticum, areâ ligamenti latiusculâ, vix excavatâ, lunulâ cordatâ; ferrugineo-spadiceâ, umbonibus fasciatâ.*

SIEBOLD'S ARTEMIS. Shell orbicular, convex, concentrically finely and very closely ridged, ridges much fewer at the sides, divaricate and wrinkled, with a single row of large scales along the posterior margin, area of the ligament rather broad, slightly excavated, lunule cordate; rusty bay, rather obscurely banded.

Hab. Japan; Dr. Siebold.

Belonging to the same type of the genus as *A. exasperata*, from which it clearly differs specifically.

Species 40. (Mus. Cuming.)

ARTEMIS PATAGONICA. *Art. testâ suborbiculari, parùm compressâ, concentricè sulcatâ, liris ad latera vix paucioribus, areâ ligamenti simplici, lunulâ subamplâ; albâ.*

THE PATAGONIAN ARTEMIS. Shell nearly orbicular, but little compressed, concentrically grooved, ridges scarcely fewer in number at the sides, area of the ligament simple, lunule rather large; white.

PHILIPPI, Abbild. und Besch. Conch. *Cyth.* p. 3. pl. 2. f. 1.

Hab. Patagonia; Philippi.

Closely allied in form and sculpture, in the appearance of the lunule, and in the simple area of the ligament, to *A. concentrica* and *ponderosa*.

Species 41. (Mus. Cuming.)

ARTEMIS LAMINATA. *Art. testâ orbiculari, posticè subangulatâ, concentricè laminatis, laminis tenuibus, umbones versus reflexis, ad latera majoribus, areâ ligamenti subexcavatâ, lunulâ cordatâ, parvâ, impressâ; albâ.*

THE LAMINATED ARTEMIS. Shell orbicular, slightly angled posteriorly, concentrically laminated, laminæ thin, reflected towards the umboes, larger at the sides, area of the ligament slightly excavated, lunule heart-shaped, small, impressed; white.

Hab. Basay, Isle of Samar, Philippines; Cuming.

In specimens of less mature growth than that here figured the laminæ are raised throughout the shell.

Species 42. (Mus. Cuming.)

ARTEMIS TRIGONA. *Art. testâ trigono-ovatâ, crassiusculâ, concentricè subirregulariter rugoso-striatâ, areâ ligu-*

menti parvinsculâ, simplici, lunulâ perampla, superficiariâ, ferè obsoletâ; albidâ, ferrugineo tinctâ, lunulâ cærulescente-albâ, nitente.

The triangular Artemis. Shell triangularly ovate, rather thick, concentrically somewhat irregularly roughly striated, area of the ligament rather small, simple, lunule very large, superficial, almost obsolete; whitish, stained with rust-brown, lunule bluish-white, shining.

Hab. Red Sea.

Somewhat *Gnathodon*-like in form, and remarkable for the widely-spread superficial character of the lunule.

Species 43. (Mus. Cuming.)

Artemis excisa. *Art. testâ subtrigono-orbiculari, crassiusculâ, concentricè rugoso-striatâ, areâ ligamenti profundè excavatâ, lunulâ ampla, obsoletâ; albidâ.*

The excavated Artemis. Shell triangularly orbicular, rather thick, concentrically roughly striated, area of the ligament deeply excavated, lunule large, obsolete; whitish.

Philippi, Abbild. und Beseh. Conch. *Cyth.* p. 4. pl. 2. f. 4. *Venus excisa*, Chemnitz.

Hab. Nicobar Island; Behn.

The lunule is more superficial and obsolete in this species than in the preceding. Its chief peculiarity consists in the deeply excavated ligament-area.

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48. a

48. b

Sowerby, del. et lith.

Reeve Benham & Reeve imp.

ARTEMIS.

PLATE VIII.

Species 36. (Mus. Cuming.)

ARTEMIS SERICEA. *Art. testâ transversè ovatâ, latiore quam altâ, concentricè tenuissimè striatâ, aream ligamenti simplici, subplanatâ, lunulâ cordatâ, subimpressâ; flavicante-albâ, umbones versus carneo tinctâ.*

THE SILKEN ARTEMIS. Shell transversely ovate, broader than high, concentrically very finely striated, area of the ligament simple, a little flattened, lunule heart-shaped, rather large; yellowish-white, tinged with pink towards the umboes.

Hab. Japan; Dr. Siebold.

The minute and delicate character of the concentric striæ give the shell a silken aspect.

Species 44. (Mus. Taylor.)

ARTEMIS ORBIGNYI. *Art. testâ orbiculari, solidâ, plano-convexâ, concentricè striatâ, striis tenuibus, elevatiusculis, regularibus, ad latera paucioribus, aream ligamenti lanceolato-excavatâ, lunulâ cordatâ, subimpressâ; albâ, umbones versus livido-fuscescentibus.*

D'ORBIGNY'S ARTEMIS. Shell orbicular, solid, flatly convex, concentrically striated, striæ fine, rather elevated, regular, fewer in number at the sides, area of the ligament lanceolately excavated, lunule cordate, somewhat impressed; white, livid-brown towards the umboes.

DUNKER, Philippi, Abbild. und Besch. Conch. *Cyth.* p. 32. pl. 6. f. 3.

Hab. Guinea; Tams.

A shell of rather solid growth, in which the striæ are rather distant and have the appearance of fine cords. I doubt if Philippi's *A. lævida* is anything more than a variety of this species.

Species 45. (Mus. Cuming.)

ARTEMIS LUCINOIDES. *Art. testâ subquadrato-orbiculari, medio tumidâ, posticè subcontractâ, concentricè subtilissimè et creberrimè striatâ, striis ad latera vix paucioribus, aream ligamenti lanceolato-excavatâ, lunulâ cordatâ, impressâ; sordidè albâ.*

THE LUCINA-LIKE ARTEMIS. Shell somewhat squarely orbicular, swollen in the middle, slightly contracted posteriorly, concentrically very finely and closely striated, striæ rather fewer at the sides, area of the ligament lanceolately excavated, lunule cordate, impressed; dull white.

Hab. Moluccas.

Of a peculiar *Lucina*-form, extremely finely striated.

Species 46. (Mus. Hanley.)

ARTEMIS DUPLICATA. *Art. testâ transversè ovatâ, latiore quam altâ, concentricè striatâ, striis elevatiusculis, acutis, posticè duplicatis, aream ligamenti plano-excavatâ, lunulâ oblongo-cordatâ, impressâ; lacteâ aut flavicante, umbonibus ad apices roseis.*

THE DUPLICATE ARTEMIS. Shell transversely ovate, broader than high, concentrically striated, striæ rather elevated, sharp, ranging two and two on the posterior side, area of the ligament flatly excavated, lunule oblong-cordate, impressed; cream-colour or yellowish, umboes pink at the tips.

Hab. —— ?

One of the chief peculiarities of this species consists in the striæ ranging off on the posterior side in pairs.

Species 47. (Mus. Cuming.)

ARTEMIS CALCULUS. *Art. testâ suborbiculari, plano-convexâ, compressâ, concentricè subtilissimè et creberrimè striato-liratâ, aream ligamenti subampliter excavatâ, lunulâ cordatâ, impressâ; albâ, umbonibus ad apices pallidè roseis.*

THE PEBBLE ARTEMIS. Shell nearly orbicular, flatly convex, compressed, concentrically very finely and closely striately ridged, area of the ligament rather largely excavated, lunule cordate, impressed; white, umboes tinged with pink at the tips.

Hab. Catanauan, Island of Luzon, Philippines (in fine sand at low water); Philippines.

Unusually compressed towards the lower margin.

Species 48. (Fig. *a*, Mus. Metcalfe. Fig. *b*, Mus. Taylor.)

ARTEMIS AMPHIDESMOIDES. *Art. testâ suborbiculari, concentricè elevato-striatâ, striis ad latera convergenti-*

bus, paucioribus, aréâ ligamenti simplici, lunulâ cordatâ, subimpressâ; albâ aut rubidâ, obscurè roseo-radiatâ, circa umbones violaceo-roseis.

The Amphidesma-like Artemis. Shell nearly orbicular, concentrically elevately striated, striæ converging and fewer in number at the sides, area of the ligament simple, lunule cordate, slightly impressed; white or ruddy, obscurely pink-rayed, violet-pink around the umboes.

Hab. Island of Burias, Philippines (in coarse sand at the depth of six fathoms); Cuming.

The violet-rose colouring around the umboes is very characteristic in this species.

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Sowerby del. et lith.

Reeve Benham & Reeve imp.

ARTEMIS.

PLATE IX.

Species 49. (Mus. Hanley.)

ARTEMIS ASPERA. *Art. testâ orbiculari, tenuiculâ, subcompressâ, concentricè creberrimè striatâ, striis elevatiusculis, irregularibus, asperis, ad latera parùm prominentioribus, aream ligamenti plano-excavatâ, lævigatâ, lunulâ cordatâ; sordidè albâ.*

THE ROUGH ARTEMIS. Shell orbicular, rather thin, somewhat compressed, concentrically very closely striated, striæ rather raised, irregular, rough and sharp, but little prominent at the sides, area of the ligament flatly excavated, smooth, lunule cordate; dead white.

Hab. Manilla (in sandy mud at low water); Cuming.

A light shell, sculptured with sharp uneven striæ.

Species 50. (Mus. Cuming.)

ARTEMIS LUNARIS. *Art. testâ obliquè orbiculari, umbones versus attenuatâ, solidiusculâ, compressâ, concentricè subobscurè impresso-striatâ, aream ligamenti planulatâ, parùm excavatâ, lunulâ elongato-cordatâ; flavicante-albâ, umbonibus ad apices roseis.*

THE LUNAR ARTEMIS. Shell obliquely orbicular, attenuated towards the umboes, rather solid, compressed, concentrically rather obscurely impressly striated, area of the ligament flattened, but little excavated, lunule elongately cordate; yellowish white, umboes pink at the tips.

Cytherea lunaris, Lamarck, Anim. sans vert. (Deshayes' edit.) vol. vi. p. 314.

Hab. Mediterranean.

It seems doubtful whether the *Venus lupinus* of Poli refers to this species or to the young of *Artemis lincta*.

Species 51. (Mus. Cuming.)

ARTEMIS MACILENTA. *Art. testâ suborbiculari, valdè inæquilaterali, tenuissimâ, compressâ, lævigatâ, vel striis incrementi minutè notatâ, aream ligamenti simplici, lunulâ oblongâ, superficiariâ, vix nullâ; albâ.*

THE LEAN ARTEMIS. Shell nearly orbicular, very inequilateral, very thin, compressed, smooth, or finely marked with striæ of growth, area of the ligament simple, lunule oblong, superficial, scarcely any; white.

Hab. Salango, West Columbia (in sandy mud at the depth of nine fathoms); Cuming.

This very delicate shell, peculiar in form, seems scarcely to have reached maturity.

Species 52. (Mus. Metcalfe.)

ARTEMIS SCULPTA. *Art. testâ suborbiculari, vix latiore quam altâ, tumidiusculâ, concentricè creberrimè striato-liratâ, liris striis radiantibus subundulatis ad latera decussatis, aream ligamenti simplici, lunulâ oblongo-cordatâ, subimpressâ; sordidè albâ.*

THE SCULPTURED ARTEMIS. Shell nearly orbicular, scarcely broader than high, rather swollen, concentrically very closely striately ridged, ridges decussated at the sides with slightly waved radiating ridges, area of the ligament simple, lunule oblong-cordate, rather large; dead white.

Hab. —— ?

The lateral radiating striæ constitute a very characteristic feature in this species, the concentric ridges passing over them in festoons.

Species 53. (Mus. Cuming.)

ARTEMIS TURGIDA. *Art. testâ suborbiculari, subrugosâ, tenuiculâ, tumidâ, concentricè sinuatissimè striatâ, aream ligamenti subimpressâ, lunulâ cordatâ, superficiariâ: ferrugineo-albâ, lineis rufescentibus radiantibus interruptis obscurè penicillatâ.*

THE TURGID ARTEMIS. Shell nearly orbicular, rather uneven, thin, swollen, concentrically very minutely striated, area of the ligament a little appressed, lunule heart-shaped, superficial; rusty white, obscurely pencilled with fine interrupted radiating reddish lines.

Hab. —— ?

This has somewhat the light form and appearance of a rounded *Tellina*.

Species 54. (Mus. Cuming.)

ARTEMIS MODESTA. *Art. testâ suborbiculari, compressâ, umbones versus subattenuatâ, concentricè minutissimè et creberrimè impresso-striatâ, striis irregularibus radiantibus obscurè notatâ, aream ligamenti lanceolato-excavatâ, lunulâ oblongo-cordatâ, impressâ; carneo-albicante, niteute.*

THE MODEST ARTEMIS. Shell nearly orbicular, compressed, slightly attenuated towards the umbones, concentrically very minutely and closely impressly striated, obscurely marked also with irregular radiating striæ; flesh-tinged white, shining.

Hab. —— ?

The radiating striæ have the appearance of light scratches.

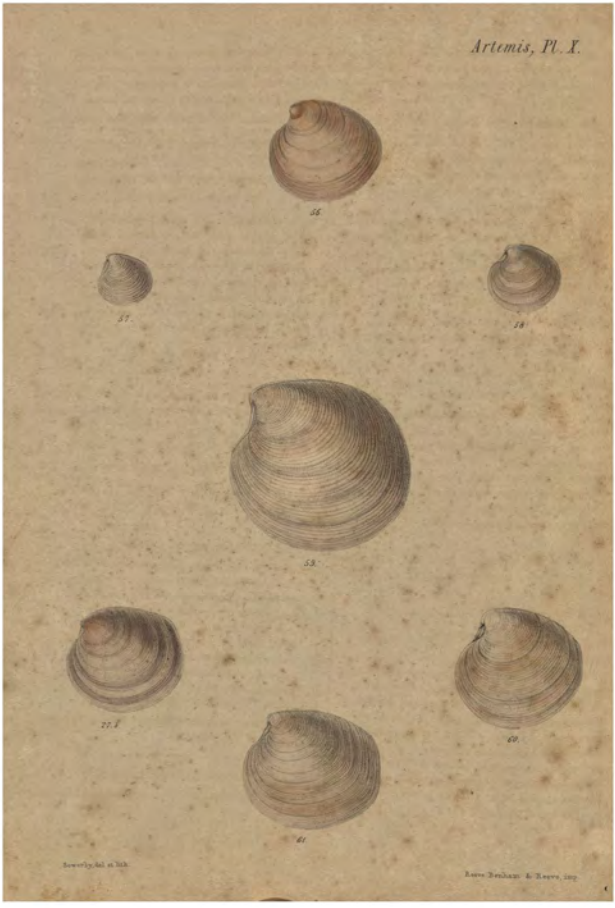
Species 55. (Mus. Cuming.)

ARTEMIS BISCOCTA. *Art. testâ suborbiculari, tumidiusculâ, concentricè striatâ, striis asperis, elevatiusculis, præcipuè ad latera, areâ ligamenti lanceolato-excavatâ, lunulâ cordatâ, impressâ; sordidè albâ, ferrugineo pallidè tinctâ.*

THE BISCUIT ARTEMIS. Shell nearly orbicular, rather swollen, concentrically striated, striæ sharp and uneven, rather elevated, especially at the sides, area of the ligament lanceolately excavated, lunule cordate, impressed; dead white, faintly rust-tinged.

Hab. Japan; Siebold.

The striæ of this species are chiefly distinguished by their sharp broken character.



Sowerby, del. et lith.

Reeve Benham & Reeve, imp.

ARTEMIS.

PLATE X.

Species 56. (Mus. Hanley.)

ARTEMIS FERRUGINEA. *Art. testâ subobliquè orbiculari, solidiusculâ, compressâ, concentricè regulariter tenuistriatâ, areâ ligamenti subexcavatâ, lunulâ oblongo-cordatâ, impressâ; carneo-albidâ, circa umbones ferrugineo-rufâ, apicibus albis.*

THE RUSTY ARTEMIS. Shell somewhat obliquely orbicular, rather solid, compressed, concentrically regularly finely striated, area of the ligament slightly excavated, lunule oblong-cordate, impressed; flesh-white, rust-red around the umboes, tips white.

Hab. —— ?

With somewhat the aspect of a *Tellina*, this shell is of rather solid growth, having little external sculpture and a deeply impressed lunule.

Species 57. (Mus. Cuming.)

ARTEMIS NANUS. *Art. testâ orbiculari, subcordatâ, gibbosiusculâ, concentricè liratâ, liris acutis, subdistantibus, areâ ligamenti simplici, lunulâ perampla, superficiarid; sordidè albâ.*

THE DWARF ARTEMIS. Shell orbicular, subcordate, rather gibbous, concentrically ridged, ridges sharp, rather distant, area of the ligament simple, lunule very large, superficial; dead white.

Hab. —— ?

The ridges of this species are large, and somewhat distant from each other in proportion to the size of the shell.

Species 58. (Mus. Cuming.)

ARTEMIS GLAUCA. *Art. testâ transversè ovatâ, latiore quam altâ, compressiusculâ, concentricè striatâ, striis medio superficiariis, ad latera acutè et tenuissimè liratis, liris obscurè serratis, areâ ligamenti vix lanceolato-excavatâ, lunulâ cordatâ, impressâ; glauco-albidâ.*

THE GLAUCOUS ARTEMIS. Shell transversely ovate, broader than high, rather compressed, concentrically striated, striæ superficial, sharply and finely ridged at the sides, ridges obscurely serrated, area of the ligament slightly lanceolately excavated, lunule cordate, impressed; glaucous white.

Hab. San Nicolas, Island of Zebu, Philippines; Cuming.

A small compressed shell, smooth and polished in the middle, finely serrately ridged at the sides.

Species 59. (Mus. Metcalfe.)

ARTEMIS SIMPLEX. *Art. testâ longitudinaliter ovatâ, umbo altiore quam latâ, concentricè striatâ, striis medio subobsoletis, ad latera profundioribus, lunulâ oblongo-ovatâ, concavo-impressâ; tectâ, niteute.*

THE SIMPLE ARTEMIS. Shell longitudinally ovate, much higher than broad, concentrically striated, striæ rather obsolete in the middle, deeper at the sides, lunule oblong-ovate, concavely impressed; cream-coloured, shining.

HANLEY, Cat. Recent Shells, pl. xv. f. 41.

Hab. —— ?

An interesting species belonging to the *A. concentrica* type, distinguished from all others by its longitudinally ovate form.

Fig. 27 *b*. (Mus. Metcalfe.)

This shell proves to be a variety of *A. Africana*, described at Pl. V.

Species 60. (Mus. Hanley.)

ARTEMIS TORRIDA. *Art, testâ suborbiculari, solidiusculâ, concentricè acutè elevato-striatâ, striis subdistantibus, areâ ligamenti lanceolato-excavatâ, lunulâ subtùs cordatâ, profundè impressâ; sordidè albâ.*

THE TORRID ARTEMIS. Shell nearly orbicular, rather solid, concentrically sharply elevately striated, striæ rather distant, area of the ligament lanceolately excavated, lunule rather broadly cordate, deeply impressed; dead white.

Hab. Mouth of the River Gaboon, West Africa.

Concentrically sculptured with fine cord-like striæ, after the manner of *A. Orbigny*.

Species 61. (Mus. Hanley.)

ARTEMIS LONGILUNATA. *Art. testâ subquadrato-orbicu-*

lari, tenui, valdè compressâ, sub lente radiatim impresso-striatâ, concentricè creberrimè tenuistriatâ, striis ad latera pancioribus, elevatiusculis, subcorrugatis, aread ligamenti latiusculâ, subplanulatâ, lunulâ peculiariter elongato-cordatâ; flavicante-albâ.

The long-lunuled Artemis. Shell somewhat squarely orbicular, thin, very much compressed, radiately impressly striated beneath the lens, concentrically very closely finely striated, striæ fewer in number at the sides, slightly raised and corrugated, area of the ligament rather broad, a little flattened, lunule peculiarly elongately cordate; yellowish-white.

Hab. —— ?

Approaching *A. penicillata* in form, but distinguished from it in detail of sculpture, and in the elongated extension of the lunule.

ARTEMIS.

	Plate.	Species.
Adansoni, Philippi	V.	27
Africana, *Gray*	V.	27
alata, *Reeve*	IV.	20
Amphidesmoides, *Reeve*	VIII.	48
annus, *Philippi*	II.	10
aspera, *Reeve*	IX.	49
australis, Philippi	VI.	33
bilunulata, *Gray*	IV.	22
biscocta, *Reeve*	IX.	55
Bruguieri, Gray	IV.	23
cælata, *Reeve*	V.	28
cærulea, *Reeve*	IV.	25
calculus, *Reeve*	VIII.	47
Chinensis (*Venus*), Chemnitz	I.	6
coupla, Löven	I.	2
concentrica (*Venus*), Gmelin	II.	8
contusa, *Reeve*	VII.	38
corrugata, *Reeve*	IV.	24
cretacea, *Reeve*	VI.	35
Cuningii, *Reeve*	V.	30
discus, *Reeve*	II.	9
Dunkeri, *Philippi*	VI.	34
duplicata, *Reeve*	VIII.	46
exasperata, *Philippi*	IV.	21
excisa (*Venus*), Chemnitz	VII.	43
exoleta (*Venus*), Linn.	V.	29
ferruginea, *Reeve*	X.	56
fibula, *Reeve*	V.	26
gigantea, Sowerby	I.	4
glauca, *Reeve*	X.	58
Gruneri, *Philippi*	V.	31
hepatica, *Philippi*	I.	7
incisa, *Reeve*	III.	16
isocardia, *Dunker*	I.	1
Japonica, *Reeve*	III.	17
juvenilis (*Venus*), Gmelin	I.	5
lamellata, *Reeve*	III.	13
laminata, *Reeve*	VII.	41
lineta (*Venus*), Pulteney	I.	2
lividu, Phil.	VIII.	44
longilunata, *Reeve*	X.	61
Lucinoides, *Reeve*	VIII.	45
lunaris (*Cyth.*), Lamarck	IX.	50
macilenta, *Reeve*	IX.	51
modesta, *Reeve*	IX.	54
nanus, *Reeve*	X.	57
nitens, *Reeve*	III.	12
Orbignyi, *Dunker*	VIII.	44
Patagonica, *Philippi*	VII.	40
penicillata, *Reeve*	VI.	32
plana, *Reeve*	III.	18
ponderosa, *Gray*	I.	4
prostrata (*Venus*), Linn.	IV.	23
radiata, *Reeve*	VII.	37
rufa (*Cyth.*), Lamarck	I.	3
scabrinscula, *Philippi*	III.	14
scalaris (*Cyth.*), Menke	II.	11
sculpta, *Hanley*	IX.	52
sericea, *Reeve*	VIII.	36
Sieboldii, *Reeve*	VII.	39
simplex, *Hanley*	X.	59
subquadrata, *Hanley*	III.	15
subrosea, *Gray*	IV.	19
torrida, *Reeve*	X.	60
trigona, *Reeve*	VII.	42
turgida, *Reeve*	IX.	53
variegata (*Venus*), Chemnitz	VI.	33

ERRATA.

Sp. 23. *A. prostrata.* Add as synonyme *A. Bruguieri*, Gray, Analyst, 1838, vol. viii. p. 309.

Sp. 52. *A. sculpta.* Add authority, Hanley, Catalogue of Recent Shells, pl. xv. f. 42.

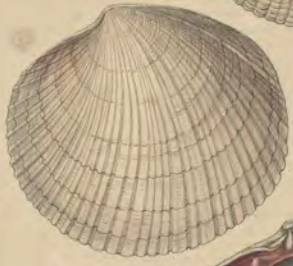
MONOGRAPH

OF THE GENUS

LUCINA.

Wisdom and spirit of the universe,
Thou soul that art the eternity of thought,
That giv'st to forms and images a breath
And everlasting motion;
Not with the mean and vulgar works of man,
But with high objects, with enduring things,
With life and nature.—*Wordsworth.*

1



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Sowerby, del. et lith.

Reeve, Bentham & Reeve, imp.

LUCINA.

PLATE I.

Genus LUCINA, *Bruguière*.

Testa plerumque orbicularis, aut plana aut gibbosa, sæpissimè æquivalvis et inæquilateralis, umbonibus parvis. Cardo variabilis, modo variè dentatus, modo edentatus. Impressiones musculares distantes, antica variè prolongata.

Shell mostly orbicular, either flattened or gibbous, most frequently equivalve and inequilateral, with the umbos small. Hinge variable, sometimes variously toothed, sometimes toothless. Muscular impressions distant, the anterior one variously prolonged.

The species referred to the genus *Lucina* in the following monograph, are a somewhat heterogeneous assemblage, comprehending ten or a dozen distinct types of form, each of which is characterized by a particular kind of hinge and external sculpture. Some of these forms have been regarded, and not improperly so, as separate genera, but all are alike distinguished in the interior of the shell by a prolongation of the anterior muscular scar. There are, moreover, few in which the internal surface of each valve is not peculiarly grooved, or striated, or punctured.

These sections of the genus are severally represented by the following species—*L. tigerina, Jamaicensis, Pennsylvanica, Philippiana, borealis, dentifera, Childreni, pecten, divaricata, cornea*, and *reticulata*; and the structure of the hinge is regarded in each as a specific, not a generic character. The shell varies exceedingly in composition, being in some species extremely thin and fragile, whilst in others it is very stout; it is, however, somewhat remarkable for the absence of external colour or painting.

In the first type, *L. tigerina* (Genus *Codakia*, Scopoli), the shell is characterized by an elaborate decussated sculpture, and the valves are mostly red-coloured about the interior margins; *L. Jamaicensis* represents a group (Genus *Phacoides*, De Blainville) in which the shell is only concentrically sculptured, and allied to this in form are the groups typified by *L. Pennsylvanica* and *dentifera*, the former being distinguished in form and by a peculiar horny epidermal coat, the latter by having the concentric ridges serrated and scaled. In *L. Childreni* the shell is remarkably inequivalve; in *L. pecten* and its congeners it is variously radiately sculptured; and in *L. divaricata* and allied species (Genus *Strigella*, Turton), the external surface of the valves is variously rippled, so to speak, with waved divaricating lines. The shell of *L. borealis* (Genus *Triodonta*, Schumacher) is of a rounded solid growth, very closely concentrically sculptured. In all these the hinge approximates more or less to the *Venus* type, with sometimes the addition of remote lateral teeth, though in one or two species all teeth are obsolete: but in the very characteristic group typified by *L. Philippiana*, most generically distinct of all, the shell is very gibbous, thin, and always toothless, the hinge being strengthened, in the absence of teeth, by a different position of the ligament, which forms a broad strap, as it were, across the dorsal margins of the valves. The hinge of *L. reticulata* and several other species (Genus *Diplodonta*, Bronn) is remarkable for an erect bifid tooth, and in *L. cornea* and its allies, also very generically distinct, the shell differs from all the preceding types in being smooth with a polished horny epidermis of a dark olive colour. The lunule of the shell in most of these groups is curious, in belonging more to one valve than to the other. The shell, instead of opening through the centre of the lunule, as in *Artemis*, opens mostly on one side of the lunule.

Of seventy *Lucinæ* here described, the localities are known of about fifty. Ten species inhabit the seas of Europe, ten are from the Philippine Islands, *L. borealis* being found in both these localities, eight inhabit the West Indies, seven the west coast of Central America, and the remainder are from the Bay of Honduras, North Australia, New Zealand, Red Sea, Senegal, Brazil, Panama, China, and Peru. In noticing the geographical distribution of the genus, the chief circumstances to be remarked are, firstly, that the beautiful type represented in the Bay of Honduras by *L. tigerina* and *exasperata*, appears at Torres Straits, North Australia, in *L. interrupta*, and at Panama in *L. punctata*; and, secondly, that the characteristic form *L. Pennsylvanica* from Jamaica, is represented at Senegal, on the west coast of North Africa, by *L. columbella*, and on the opposite side of the continent, on the shores of the Red Sea, by *L. speciosa*. The European species have little or no typical relation, and none of the types of the genus appear to have any particular local character.

Species 1. (Mus. Cuming.)

LUCINA RUGIFERA. *Lnc. testâ ovatâ, longiore quam altâ, compressiusculâ, radiatim subobscurè sulcatâ, liris concentricis corrugatis undique conspicuè exsculptâ, sulcis radiantibus ad latera subprofundis; lacteâ, pallidè spadiceo concentricè fasciatâ.*

THE WRINKLED LUCINA. Shell ovate, longer than high, rather compressed, radiately somewhat obscurely grooved, and conspicuously sculptured throughout with concentric wrinkled ridges, radiating grooves rather deep at the sides; cream-colour, concentrically banded with light fawn-colour.

REEVE, Pro. Zool. Soc. 1835, p. 68.

Hab. —— ?

This species is characterized by light fawn bands, more or less obscure, upon a dark cream-coloured ground; and the sculpture has a peculiar wrinkled aspect.

Species 2. (Mus. Cuming.)

LUCINA PUNCTATA. *Luc. testâ suborbiculari, convexâ, lævigatâ, radiatim sulcatâ, sulcis angustis, linearibus, plus minus distantibus, ad latera numerosis, confertioribus, valeis intus punctatis; albâ, intus lutescente, margine virido roseâ.*

THE PUNCTURED LUCINA. Shell nearly orbicular, convex, smooth, radiately grooved, grooves narrow, linear, more or less distant, numerous and closer at the sides, valves punctured within; white, yellowish within, deep rose round the edge.

Venus punctata, Linnæus, Syst. Nat. (12th edit.) p. 1134.
Cytherea punctata, Lamarck.
Lucina punctata, Deshayes.

Hab. Panama (in sand at low water); Cuming.

Distinguished by its smooth surface and narrow radiating grooves, whilst each valve is conspicuously punctured in the interior.

Species 3. (Mus. Cuming.)

LUCINA TIGERINA. *Luc. testâ oblongo-ovatâ, longiore quam altâ, plano-convexâ, radiatim sulcatâ, lirâ concentricis undique creberrimè decussatâ; intus utroque albâ.*

THE GRAINED LUCINA. Shell oblong-ovate, longer than high, flatly convex, radiately many-grooved, very closely decussated throughout with concentric ridges; white within and without.

Venus tigerina, Linnæus, Syst. Nat. (12th edit.) p. 1131.
Cytherea tigerina, Lamarck.
Lucina tigerina, Deshayes.

Hab. Bay of Honduras; Dyson.

This and the following species have been mostly confounded together under the head of *L. tigerina*.

Species 4. (Mus. Cuming.)

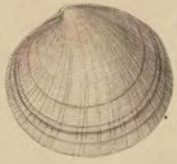
LUCINA EXASPERATA. *Luc. testâ suborbiculari, tumidâ, sulcis concentricis et radiantibus undique creberrimè decussatâ, liris interstitiis muricato-nodulosis; albâ, margine interno roseâ.*

THE SHARP LUCINA. Shell nearly orbicular, convex, very closely decussated throughout with concentric and radiating grooves, the interstitial ridges being prickly-noduled; white, margin rose within.

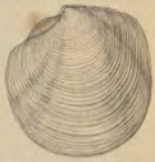
Hab. Bay of Honduras; Dyson.

This well-known shell, which is Lamarck's *Cytherea tigerina* var. 3, is certainly distinct from that just described, which he makes the type of the species.

5 a.



5 b.



6.

7 a.

7 b.

8.

9.

Sowerby del et lith.

Reeve Benham & Reeve imp.

LUCINA.

PLATE II.

Species 5. (Fig. *a*, *b*, Mus. Cuming.)

LUCINA INTERRUPTA. *Luc. testâ orbiculari, convexâ, solidiusculâ, concentricè creberrimè tenuiratâ, liris brevibus, obtusis, linis impressis inæquidistantibus ad latera ab umbonibus promiscuè radiatâ, lunulâ parvâ, cordatâ, subprofundè excavatâ; albâ, prope cardinem utrinque roseâ, intus viridè luteâ.*

THE INTERRUPTED LUCINA. Shell orbicular, convex, rather solid, concentrically very closely finely ridged, ridges short, obtuse, promiscuously rayed at the sides with inequidistant impressed lines, lunule small, heart-shaped, rather deeply excavated; white, rose on both sides near the hinge, bright yellow interiorly.

Cytherea interrupta, Lamarck, Anim. sans vert. (Deshayes' edit.) vol. vi. p. 318.

Hab. Busly Island, Torres Straits; Jukes.

A delicately sculptured species, belonging to the same type as those of the preceding plate, and similarly rose-coloured on either side of the hinge.

M. Deshayes is mistaken in supposing this to be a variety of *L. tigerina*, from Senegal.

Species 6. (Mus. Cuming.)

LUCINA ARGENTEA. *Luc. testâ suborbiculari, convexo-depressâ, ad latera vix angulatâ, tenuiculâ, concentricè acutè tenuiratâ, liris inæquidistantibus, interstitiis radiatim exiliè corrugatis, cardinis dentibus callosis, subobsoletis; intus extùsque subpellucido-albâ.*

THE SILVERY LUCINA. Shell nearly orbicular, convexly depressed, scarcely angled at the sides, rather thin, concentrically sharply finely ridged, ridges inequidistant, interstices radiately delicately corrugate, teeth of the hinge callous, almost obsolete; semitransparent white within and without.

Hab. Moluccas.

A flattened semipellucid silver-white shell very regularly concentrically sculptured.

Species 7. (Fig. *a*, *b*, Mus. Cuming.)

LUCINA JAMAICENSIS. *Luc. testâ suborbiculari, compressâ, ad latera ab umbonibus excavato-angulatâ, concentricè lamellâ, lamellis brevibus subdistantibus, cardinis dentibus centralibus ferè obsoletis, lateralibus prominentibus, compressis, erectis; fuscescente-lacteâ, intus viridè rufescente-croceâ, interdum, autem rarò, intus extùsque albâ.*

THE JAMAICA LUCINA. Shell nearly orbicular, compressed, excavately angled from the umbocs at the sides, concentrically lamellated, lamellæ short, rather distant, central teeth of the hinge almost obsolete, lateral teeth prominent, compressed, erect; brownish cream-colour, bright reddish-saffron in the interior, sometimes, but rarely, white within and without.

Venus Jamaicensis, Chemnitz, Conch. Cab. vol. vii. p. 24. pl. 38. f. 408–9.

Lucina Jamaicensis, Lamarck.

Hab. Jamaica; Gosse.

This well-known species was called by the early French conchologists, the Apricot, after the rich colouring of the interior; there is, however, a well-marked white variety, such as that represented at Fig. 7 *b*, and which is mostly smaller in size.

Species 8. (Mus. Cuming.)

LUCINA BICORNIS. *Luc. testâ globoso-orbiculari, ventricosâ, ab umbonibus utrinque leviter excavatâ, concentricè tenuistriatâ, rugosâ, lunulâ cordatâ, conspicuè excavatâ, cardine dente unicâ centrali, parvâ, duobus lateralibus compressis, prominentibus, erectis; fuscescente-lacteâ, intus rufescente-croceo pallidè tinctâ.*

THE TWO-HORNED LUCINA. Shell globosely orbicular, ventricose, slightly excavated on both sides from the umbocs, concentrically finely striated, rough, lunule cordate, conspicuously excavated, hinge with a small single central tooth, and two prominent compressed erect lateral ones; brownish cream-colour, faintly tinged with reddish saffron-colour within.

Hab. Island of Ticao, Philippines (in fine coral sand at low water); Cuming.

Very similar to the following species, except in having two strongly developed lateral teeth.

Species 9. (Mus. Cuming.

LUCINA EDENTULA. *Luc. testâ orbiculari, tenuiculâ, ventricosâ, ab umbonibus utrinque superficialiter excavatâ,*

concentricè subtiliter et densissimè striatâ, cardine edentulo; semipellucido-albâ, intus rufescente-croceâ.

The toothless Lucina. Shell orbicular, rather thin, ventricose, superficially excavated from the umboes on both sides, concentrically finely and very thickly striated, hinge toothless; semitransparent white, reddish-saffron in the interior.

Venus edentula, Chemnitz, Conch. Cab. vol. vii. p. 34. pl. f. 427–9.

Lucina edentula, Lamarck.

Hab. Jamaica.

Similarly coloured in the interior to *L. Jamaicensis*, from which it differs in being of a rounder and more ventricose form. The sculpture consists merely of crowded concentric striæ.

The name *Venus edentula* originated with Linnæus, but it is impossible to determine what species the description was intended to refer to. Dr. Philippi thinks that the species represented at Pl. V. Fig. 23, is the Linnæan *V. edentula*, but it does not appear so to me.

10. b.

10. a.

11.

12.

13.

14.

15.

Sowerby Del et lith.

Reeve Bentham & Reeve imp.

LUCINA.

PLATE III.

Species 10. (Fig. *a*, *b*, Mus. Cuming.)

LUCINA DENTIFERA. *Luc. testâ trigono-orbiculari, convexo-depressâ, ad latera latè sulcatâ, subangulatâ, concentricè lamellatâ, lamellis distantibus, tenuibus, erectis, margine pulcherrimè serratis, ad latus posticum conspicuè squamatis; albâ, epidermide tenuissimâ corneâ indutâ.*

THE FINE-TOOTHED LUCINA. Shell triangular-orbicular, convexly depressed, broadly grooved at the sides, slightly angulated, concentrically lamellated, lamellæ distant, thin, erect, very beautifully serrated at the edge, conspicuously squamate on the posterior side; white, covered with a very thin horny epidermis.

JONAS, Philippi, Abbild. und Besch. Conch. vol. ii. p. 206. *Luc.* pl. 1. f. 4.

Hab. Suez, Red Sea.

Distinguished by the beautifully serrated border of the laminæ, which are conspicuously developed in erect scales along the posterior margin.

Species 11. (Mus. Cuming.)

LUCINA SIMPLEX. *Luc. testâ orbiculari, convexâ, tenuiculâ, subæquilaterâ, posticè subobsoletè flexuoso-angulatâ, concentricè regulariter creberrimè elevato-striatâ, lineis subtilibus radiantibus densè irregulariter sculptâ; albâ.*

THE SIMPLE LUCINA. Shell orbicular, convex, rather thin, nearly equilateral, somewhat obsoletely flexuously angulated on the posterior side, concentrically regularly very closely elevately striated, and thickly irregularly scratched with fine radiating lines; white.

Hab. North Australia; Jukes.

Very simply concentrically sculptured with striæ after the manner of fine ridges, and, upon examination with the lens, is found to be rayed with scratches.

Species 12. (Mus. Cuming.)

LUCINA CHILDRENI. *Luc. testâ subamplâ, elliptico-orbiculari, umbones versus attenuatâ, inæquilaterâ, posticè flexuoso-angulatâ, valvâ alterâ planâ, alterâ convexâ, densissimè concentricè striatâ, striis numerosis subtilibus impressis radiantibus decussatâ, cardinis dentibus centralibus duabus divaricatis prominentibus, lateralibus callosis, subobsoletis; intus extusque albâ.*

CHILDREN'S LUCINA. Shell rather large, elliptically orbicular, attenuated towards the umboes, inequilateral, flexuously angled posteriorly, one valve flat, the other convex, very thickly striated concentrically, decussated with numerous fine impressed radiating striæ, central teeth of the hinge two in number, prominent, divaricate, lateral teeth callous, nearly obsolete; white within and without.

GRAY, Zool. Journ. vol. i. p. 221.

Hab. Brazil.

In this fine species sometimes the right valve, sometimes the left is the flat one, the opposite valve in either case being convex.

Species 13. (Fig. 13 and 14, Mus. Cuming.)

LUCINA BOREALIS. *Luc. testâ suborbiculari, vix inæquilaterâ, solidiusculâ, plus minus ventricosâ, posticè obsoletè flexuoso-excavatâ, anticè subangulatâ, plus minus productâ, subrostratâ, concentricè filoso-liratâ; sordidè albâ, epidermide fuscescente indutâ.*

THE NORTHERN LUCINA. Shell nearly orbicular, but little inequilateral, rather solid, more or less ventricose, obsoletely flexuously excavated on the posterior side, somewhat angularly inclined, produced, and subrostrate anteriorly, concentrically sculptured with thread-like ridges; dead white, covered with a brownish epidermis.

Venus borealis, Linnæus, Syst. Nat. 12th. edit. p. 1413.
Lucina borealis, Forbes and Hanley.
Tellina radula, Montagu.
Lucina radula, Lamarck.
Testa junior. *Lucina alba*, Turton.

Hab. Northern Europe and the British Isles. Massachusetts, United States; Gould. Bay of Manila, Island of Luzon, Philippines; Cuming.

The *Lucina borealis* has a much wider geographical range than has been hitherto supposed. The shell Fig. 13 represents the British state of the species, stout and somewhat globose, dredged at Scarborough; and that at Fig. 14, more depressed, with the anterior side slightly rostrate, is its eastern analogue, collected by Mr. Cuming in the Bay of Manila, where it is not uncommon.

May, 1850.

Species 15. (Mus. Cuming.)

LUCINA VENUSTA. *Luc. testâ subglobosa-orbiculari, ventricosâ, subæquilaterâ, radiatim multicostatâ, costis tenuibus, numerosis, in parte medio antici subobsoletis, lineis transversis impressis undique undulato-sculptis, lunulâ oblongâ, cardinis dentibus centralibus subprominentibus, lateralibus parvis subobsoletis; albâ.*

THE GRACEFUL LUCINA. Shell somewhat globosely orbicular, ventricose, nearly equilateral, radiately many-ribbed, ribs fine, numerous in the part anterior to the middle, rather obsolete, undulately sculptured throughout with transverse impressed lines, lunule oblong, central teeth of the hinge rather prominent, lateral teeth small, nearly obsolete; pure white.

PHILIPPI, Abbild. und Besch. Conch. vol. ii. p. 206. *Luc.* pl. 1. f. 2.

Hab. Bay of Manila (sandy mud, shallow water); Cuming.

An elaborately carved ventricose shell, perfectly white, without any indication of colouring, and with very much the aspect of a *Cardium*.

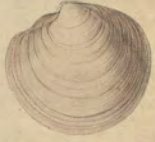
16. a.

16. b.

17.

18. a.

19.



20.

18. b.

Sowerby del. et lith.

LUCINA.

PLATE IV.

Species 16. (Fig. *a* and *b*, Mus. Cuming.)

LUCINA BARBATA. *Luc. testâ orbiculari, planulatâ, inæquilaterâ, posticè excavato-angulatâ, lævigatâ, lineis incrementi ubrulè notatâ, lunulâ lanceolato-cordatâ, profundè excavatâ, dentibus callosis, subobsoletis; semipellucido-albâ, epidermide fibrosâ hic illic indutâ.*

THE BEARDED LUCINA. Shell orbicular, rather flattened, inequilateral, posteriorly excavately angled, smooth, rather rudely marked with lines of growth, lunule lanceolately heart-shaped, deeply excavated, teeth callous, somewhat obsolete; semitransparent white, covered here and there with a fibrous epidermis.

Hab. ——?

The light fibrous epidermis of this species is a very characteristic feature.

Species 17. (Mus. Cuming.)

LUCINA ANNULATA. *Luc. testâ orbiculari, subplanulatâ, inæquilaterâ, concentricè laminato-liratâ, liris acutis, erectis, interstitiis concentricè striatis, lunulâ lanceolato-ovatâ, subprofundè excavatâ; semipellucido-albâ.*

THE ANNULATED LUCINA. Shell orbicular, rather flattened, inequilateral, concentrically laminately ridged, ridges sharp, erect, interstices concentrically striated, lunule lanceolately ovate, rather deeply excavated; semitransparent white.

Hab. California?

A thin delicate blue-white shell, sculptured with sharp circular ridges.

Species 18. (Mus. Cuming.)

LUCINA PHILIPPINARUM. *Luc. testâ orbiculari, vix inæquilaterâ, posticè excavato-angulatâ, concentricè liratâ, liris subacutis, corrugatis, nunc distantibus, nunc numerosis, confertioribus, lirarum interstitiis concentricè elevato-striatis, lunulâ vix ullâ, cardine dentibus centralibus nullis, lateralibus callosis, ferè obsoletis; albâ, lineis obtusissimis fuscescentibus ob umbonibus radiantibus pallidè tinctâ, epidermide tactâ indutâ, umbonibus plus minusve erosis.*

THE PHILIPPINE LUCINA. Shell orbicular, inequilateral, posteriorly excavately angled, concentrically ridged, ridges rather sharp, corrugate, now distant, now numerous and closer, interstices between the laminæ concentrically sculptured with raised striæ, scarcely any lunule, hinge destitute of central teeth, lateral teeth callous, almost obsolete; white, faintly marked with fine brownish lines, radiating from the umboes, covered with a cream-coloured epidermis, umboes more or less eroded.

HANLEY, Species of Shells.

Hab. Bay of Manila and Singapore (in sandy mud at the roots of Mango-trees); Cuming.

This fine species, with its irregular corrugate sculpture, epidermis, and eroded umboes, has externally the general aspect of a *Cyrena*.

Species 19. (Mus. Cuming.)

LUCINA ANATELLINOIDES. *Luc. testâ transversè ovatâ, tenuiculâ, vix inæquilaterâ, anticè subrostratâ, posticè obsolètè excavato-angulatâ, minutissimè decussatim striatâ, lunulâ parvâ, lanceolato-oblongâ; albidâ.*

THE ANATINELLA-LIKE LUCINA. Shell transversely ovate, rather thin, scarcely inequilateral, anteriorly subrostrate, posteriorly obsoletely excavately angled, very minutely decussately striated, lunule small, lanceolately-oblong; whitish.

Hab. West Indies.

Distinguished by its *Anatinella*-like form. The interior of the shell has some slight tinge of colouring.

Species 20. (Mus. Cuming.)

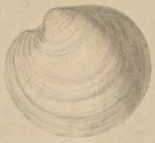
LUCINA SULCATA. *Luc. testâ orbiculari, depressiusculâ, anticè subcuspicuè excavato-angulatâ, concentricè irregulariter acutè sulcatâ, lunulâ parvâ; semipellucido-albâ.*

THE GROOVED LUCINA. Shell orbicular, rather depressed, anteriorly rather conspicuously excavately angulated, concentrically irregularly sharply grooved, lunule small; semitransparent white.

Hab. ——?

Though a pellucid white shell, it is of rather solid substance, very closely sharply grooved throughout.

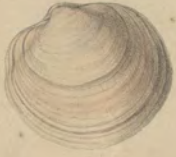
21.



22.

23. a.

23. b.



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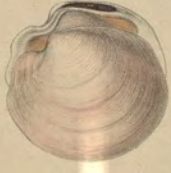


26.

Sowerby del. et lith.

LUCINA.

PLATE V.

Species 21. (Mus. Cuming.)

LUCINA OVUM. *Luc. testâ transversè ovatâ, tenui, ventricosâ, inequilaterâ, anticè subrostratâ, concentricè tenuissimè superficialiter striatâ, lunulâ lanceolato-cordatâ, vix concavâ, cardine tenui, edentulâ; albâ.*

THE EGG LUCINA. Shell transversely ovate, thin, ventricose, inequilateral, subrostrate anteriorly, conspicuously very thinly superficially striated, lunule lanceolately cordate, but little concave, hinge thin, toothless; white.

Hab. Island of Buriss, Philippines (in coarse sand at the depth of four fathoms); Cuming.

The *Lucinæ* represented at Fig. 21 to 24 belong to a peculiar type, of which the shell is very thin and ventricose, without colour or pattern of sculpture, the hinge toothless, and the ligament developed internally across the posterior dorsal junction of the valves.

Species 22. (Mus. Cuming.)

LUCINA TUMIDA. *Luc. testâ suborbiculari, globosâ, inequilaterâ, tenuiâ, tenuissimâ, anticè subrostratâ, concentricè subtilissimè superficialiter striatâ, striis impressis radiantibus exiliter decussatâ, lunulâ ovato-cordatâ, vix impressâ, cardine edentulâ; albâ.*

THE SWOLLEN LUCINA. Shell nearly orbicular, globose, inequilateral, swollen, very thin, subrostrate anteriorly, concentrically very finely superficially striated, faintly decussated with radiating impressed striæ, lunule ovately cordate, but little impressed, hinge toothless; white.

Hab. ——?

More globose and swollen than the former, lunule broader, and faintly rayed throughout with impressed striæ.

Species 23. (Fig. *a*, *b*, Mus. Cuming.)

LUCINA PHILIPPIANA. *Luc. testâ transversè orbiculari, valdè inequilaterâ, tenuiculâ, inflatâ, concentricè rugoso-striatâ, corrugatâ, lunulâ vix nullâ; lacteâ, epidermide fuscescente ad latera et versus marginem ventralem indutâ.*

PHILIPPI'S LUCINA. Shell transversely orbicular, very inequilateral, rather thin, inflated, concentrically roughly striated, wrinkled, scarcely any lunule; cream-colour, covered at the sides and towards the ventral margin with a light brown epidermis.

Lucina edentula, Philippi (not of Lamarck).

Hab. ——?

Dr. Philippi considers that this is the species originally described by Linnæus as *Venus edentula*; I do not, however, concur with this opinion. The term "subdiaphanâ," from the Linnæan description in Mus. Ludov. Ulric. reg. p. 508, will not apply to the shell under consideration, which is of rather an opake white, more or less covered with epidermis. The description being very indefinite throughout, and applicable to half a dozen species, I have retained the name "*edentula*" for that which is undoubtedly the species so acknowledged by Chemnitz and Lamarck.

Species 24. (Mus. Cuming.)

LUCINA PILA. *Luc. testâ suborbiculari, tenui, inflatâ, valdè globosâ, subæquilaterâ, concentricè rugoso-striatâ, lunulâ ovatâ, impresso-concavâ; sordidè albâ, epidermide tenui marginem ventralem versus indutâ.*

THE BALL LUCINA. Shell nearly orbicular, thin, inflated, extremely globose, nearly equilateral, concentrically roughly striated, lunule ovate, impressly concave; dead white, covered with a thin epidermis towards the ventral margin.

Hab. ——?

Distinguished by its very globose form and hollow lunule.

Fig. 25. (Mus. Cuming.)

The shell here figured proves to be a globose variety of *L. edentula*.

For Sp. 25, see Pl. IX.

Species 26. (Mus. Cuming.)

LUCINA MALUM. *Luc. testâ suborbiculari, latiore quam altâ, ventricosâ, anticè leviter excavatâ, deindè subrostratâ, concentricè creberrimè ocellè strioto-liratâ, lunulâ latè ovatâ, concavâ; semipellucido-albâ, intus vicide rufescente-croceâ.*

The golden-apple Lucina. Shell nearly orbicular, broader than high, ventricose, slightly excavated anteriorly, then subrostrate, concentrically very closely sculptured with sharp striæ-like ridges, lunule broadly ovate, concave; semitransparent-white, brightly stained within with reddish saffron-colour.

Hab. Island of Ticao, Philippines.

This very delicate and richly-coloured species is distinguished from *L. edentula*, to which it is nearest allied, by its conspicuous broadly ovate lunule.

27 a.

27 b.

28.

29.

30.

31.

32.

Sowerby, del. et lith.

Reeve Benham. & Reeve imp.

LUCINA.

PLATE VI.

Species 27. (Fig. *a*, *b*, Mus. Cuming.)

LUCINA CELATA. *Luc. testâ globosâ, crassiusculâ, tumidâ, concentricè striatâ, peculiariter undato-celatâ et erosâ, cardine dentibus centralibus duabus angustis, quarum unâ prominulâ erectâ bifidâ in utrâque valvâ; albâ.*

THE CARVED LUCINA. Shell globose, rather thick, swollen, concentrically striated, peculiarly carved and eroded in a waved manner, hinge composed of two central teeth, one of which is rather prominent, erect, and bifid in each valve; white.

Hab. Island of Muerto, Bay of Guayaquil (dredged from a depth of about eleven fathoms); Cuming.

This is a remarkable shell, and belongs apparently to the genus *Diplodonta*, of which our British *Lucina rotundata* is the type; it has, however, the narrow oblong posterior muscular scar. The hinge is characterized by a peculiar erect bifid tooth, and externally the valves are carved with a curious zigzag pattern upon an opake eroded ground.

Species 28. (Mus. Cuming.)

LUCINA VIRGO. *Luc. testâ subquadrato-orbiculari, crassâ, solidâ, posticè sulco conspicuè excavatâ, anticè lunulâ ampâ latè cordatâ impressâ, concentricè subtilissimè liratâ, liris tenuibus, membranaceis; semipellucido-albâ, epidermide tenui corneâ indutâ.*

THE VIRGIN LUCINA. Shell somewhat squarely orbicular, thick, solid, posteriorly conspicuously excavated with a groove, anteriorly with a large broadly cordate impressed lunule, concentrically very finely ridged, ridges thin, membranaceous; semi-transparent white, covered with a thin horny epidermis.

Hab. ——?

Resembling *L. columbella*, but more depressed, and characterized by a simple, and therefore different sort of epidermis. From *L. Pennsylvanica* it differs in having a broader cordate lunule.

Species 29. (Mus. Cuming.)

LUCINA PENNSYLVANICA. *Luc. testâ subquadrato-orbiculari, crassâ, solidâ, posticè sulco conspicuè excavatâ, anticè lunulâ ampâ oblongo-cordatâ impressâ, concentricè subtiliter liratâ, liris tenuibus, membranaceis; albâ, epidermide tenui corneâ, liras super hic illic peculiariter quadrato-squamatâ, indutâ.*

THE PENNSYLVANIAN LUCINA. Shell somewhat squarely orbicular, thick, solid, conspicuously excavated on the posterior side with a groove, anteriorly with an oblong-cordate impressed lunule, concentrically very finely ridged, ridges thin, membranaceous; white, covered with a thin horny epidermis, which is peculiarly quadrate-squamate here and there.

Venus Pennsylvanica, Linnæus, Syst. Nat. p. 1134.

Lucina Pennsylvanica, Lamarck.

Hab. Jamaica; Gosse.

This species presents a singular appearance, from the circumstance that the horny epiderm, composing the concentric ridges, turns over here and there towards the umboes in scales, which are mostly square, and look like solid particles deposited in the interstices.

It is very much to be doubted whether the *Lucina Pennsylvanica* really inhabits the shores from whence it derives its name; should that not be the case I would propose to call it *L. grandinata*. The specimen here figured was collected by Mr. Gosse, at Jamaica.

Species 30. (Mus. Cuming.)

LUCINA COLUMBELLA. *Luc. testâ globosâ, crassiusculâ, solidâ, posticè sulcato-excavatâ, anticè lunulâ perampâ cordatâ impressâ, concentricè multiliratâ, liris brevibus subobtusis; albâ, epidermide crassâ arctè liratâ indutâ.*

THE LITTLE DOVE LUCINA. Shell globose, very thick, solid, posteriorly sulcately excavated, anteriorly impressed with a very large cordate lunule, concentrically many-ridged, ridges short and rather obtuse; white, covered with a thick compactly-ridged epidermis.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vi. p. 230.

Lucina Adansoni, D'Orbigny.

Hab. Canary and Cape de Verd Islands. Senegal.

In this species the epidermis is formed on the ridges in stout closely-compacted strips.

Species 31. (Mus. Cuming.)

LUCINA AURANTIA. *Luc. testâ subquadrato-orbiculari, tumidâ, crassissimâ, solidâ, posticè sulcato-excavatâ, anticè lunulâ amplâ laticordatâ impressâ, concentricè obscurè liratâ, liris tenuibus, subrudibus, irregularibus; albâ, margines versus intus extusque vividè rufescente-aurantiâ, epidermide vix nullâ.*

THE ORANGE-TINGED LUCINA. Shell somewhat squarely orbicular, swollen, very thick, solid, posteriorly sulcately excavated, anteriorly impressed with a large broadly cordate lunule, concentrically obscurely ridged, ridges thin, rather rude and irregular; white, bright reddish-orange within and without towards the margins, with scarcely any epidermis.

DESHAYES, Anim. sans. vert. vol. vi. p. 236.

Hab. West Indies.

In form this species is very similar to the preceding, wanting its characteristic epidermis.

Species 32. (Mus. Cuming.)

LUCINA SPECIOSA. *Luc. subquadrato-orbicularis, crassâ, depressiusculâ, posticè sulcato-excavatâ, anticè lunulâ amplâ elongato-cordatâ impressâ, concentricè liratâ, liris tenuibus, membranaceis; albâ, epidermide coruâ indutâ.*

THE HANDSOME LUCINA. Shell somewhat squarely orbicular, thick, rather depressed, posteriorly sulcately excavated, anteriorly impressed with a large elongately cordate lunule, concentrically ridged, ridges thin, membranaceous; white, coverel with a horny epidermis.

Hab. Red Sea.

The epiderm ridges of this beautiful species are not turned back towards the umboes as in *L. Pensylvanica*, but incline forwards. In other respects it bears a very close resemblance to that species, which, as coming from so remote a locality, is extremely curious.

33.

34.

35. a.

36.

35. b.

37.

38. a.

39.

40.

38. b.

Sowerby, del et lith.

Reeve, Benham, & Reeve imp.

LUCINA.

PLATE VII.

Species 33. (Fig. 33, 37, and 38 *a*, *b*, Mus. Cuming.)

LUCINA FIBULA. *Luc. testâ suborbiculari, umbones versus anticè inclinatâ, depresso-convexâ, radiatim tenuicostatâ, costis obtusis, ad latera divaricatis, striis concentricis elevatis creberrimè et subtilissimè decussatis; albidâ, interdùm roseâ aut flavicante.*

THE BUTTON LUCINA. Shell nearly orbicular, inclined anteriorly towards the umboes, depressly convex, radiately finely ribbed, ribs obtuse, divaricate at the sides, very closely and finely decussated with concentric raised strie; whitish, sometimes pink or yellowish.

Hab. St. Elena, West Columbia (from sandy mud at a depth of about six fathoms); and Islands of Burias and Tieso, Philippines (in sandy mud at low water); Cuming.

The seven allied varieties represented in this plate belong to two species, the present of which differs mainly from the following in the extreme lateral ribs divaricating off from the plan of radiation.

Species 34. (Fig. 34 and 35 *a*, *b*, Mus. Cuming.)

LUCINA PECTEN. *Luc. testâ transversè orbiculari, depresso-convexâ, radiatim tenuicostatâ, costis obtusis, interdùm duplicatis, striis elevatis creberrimè squamato-decussatis; albidâ.*

THE COMB LUCINA. Shell transversely orbicular, depressly convex, radiately finely ribbed, ribs obtuse, sometimes duplicate, very closely squamately decussated with raised strie; whitish.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vi. p. 230.

Hab. Island of St. John, West Indies; Hartvig. Lord Hood's Island (in the crevices of wells); Cuming.

More depressed and rather more transversely orbicular than the *L. fibula*, whilst the extreme lateral ribs do not divaricate off as in that species.

For Sp. 35, 37, and 38, see Pl. X.

(Species 36. Mus. Cuming.)

LUCINA ROTUNDATA. *Luc. testâ transversè subquadratâ, tumidâ, valdè inæquilaterâ, lævigatâ, lineis incrementi hic illic notatâ, lateribus simplicibus, lunulâ nullâ, cardine dentibus centralibus duabus, quarum unâ bifidâ in utrâque valvâ; albidâ, epidermide tenui partim indutâ.*

THE ROUNDED LUCINA. Shell transversely subsquare, swollen, very inequilateral, smooth, marked here and there with lines of growth, sides simple, no lunule, hinge with two central teeth in each valve, one of which is bifid; whitish, partially covered with a thin epidermis.

TURTON, Conch. Dythyra Brit. p. 114. pl. 7. f. 3.
Psammobia rotundata, Fleming.
Diplodonta rotundata, Philippi.
Eadem. *Diplodonta dilatata*, Philippi.

Hab. Mediterranean and Southern shores of Britain.

This species, having no ribs, lunule, or lateral excavation, is far removed in external character from the type of *Lucina*, whilst the hinge is distinguished, as in the case of *L. ovalata*, by a conspicuous bifid tooth. There are several other species referred to *Lucina* in this monograph with a similar characteristic dentition.

Species 39. (Mus. Cuming.)

LUCINA SPINIFERA. *Luc. testâ longitudinaliter ovatâ, subcompressâ, umbones versus subtrigonâ, concentricè creberrimè laminato-striatâ, striis ad latera elevatioribus, per marginem posticum spinoso-squamatis, areâ ligamenti lanceolato-planatâ, umbonibus compressis, lunulâ oblongo-ovatâ, peculiariter excavatâ; sordidè albâ, ferrugineo tinctâ.*

THE SPINY LUCINA. Shell longitudinally ovate, rather compressed, inclined to triangular towards the umboes, concentrically very closely laminately striated, strie more raised at the sides, spinous-squamate along the posterior margins, area of the ligament lanceolately flattened, umboes compressed, lunule oblong-ovate, peculiarly excavated; dull white, rust-stained.

Venus spinifera, Montagu, Test. Brit. p. 577, pl. 17. f. 1.
Myrtea spinifera, Turton.
Lucina spinifera, Hanley.
Lucina Hatelloides, Philippi.

Hab. Mediterranean and Southern shores of Britain. Ireland. North Scotland. Norway.

The nearest representative of *L. spinifera* in tropical

seas, so far as the external character of the shell is concerned, occurs in certain species of *Artemis*, which have the same flattened ligament-area, and posterior lateral scales more typically developed. There is, however, no indication of the internal lanceolate triangular sinus of *Artemis* in the shell under consideration.

Species 40. (Mus. Cuming.)

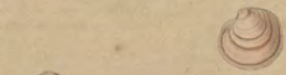
Lucina funiculata. *Luc. testâ oblongo-quadratâ, tenuiculâ, posticè angulato-excavatâ, anticè excavatâ, lunulâ cordatâ minutâ profundâ impressâ, concentricè liris tenuibus funiculatâ; sordidè albâ.*

The corded Lucina. Shell oblong-quadrate, rather thin, posteriorly angularly excavated, anteriorly slightly excavated and impressed with a small deep cordate lunule, concentrically corded with fine ridges; dull white.

Hab. Bay of Honduras; Dyson.

Belonging to the same type as *L. Jamaicensis* of the neighbouring seas.

Lucina. Pl. VIII.



41.

42.

43.

44.

45.

46.

47 a.

47 b.

48.

49.

Waverley, del. et lith.

Frederic Rowe, imp.

LUCINA.

PLATE VIII.

Species 41. (Mus. Cuming.)

LUCINA LEUCOMA. *Luc. testâ orbiculari, planiconvexâ, antice superficialiter excavatâ, lunulâ oblongâ, parvâ, subprofundâ, concentricè lineis incrementi rudè notatâ; opaco-albâ, quasi erosâ.*

THE BLEACHED LUCINA. Shell orbicular, flatly convex, superficially excavated on the anterior side, with the lunule oblong, small, and rather deep, concentrically rudely marked with lines of growth; opake white, as if eroded.

TURTON, Conch. Dythyra Brit. p. 113. pl. 7, f. 8.
Tellina lactea, Pulteney.
Lucina lactea, Lamarck.
Lucina Amphidesmoides, Deshayes.
Amphidesma Lucinalis, Lamarck.
Loripes lacteus, Fleming.

Hab. Mediterranean and the British Islands (from shallow water to a depth of eighty fathoms); Forbes and Hanley.

The deep internal position of the ligament of this well-known species, induced Lamarck to place it in the genus *Amphidesma*.

Species 42. (Mus. Cuming.)

LUCINA OBLIQUA. *Luc. testâ suborbiculari, anticè obliquè inclinatâ, solidiusculâ, striis concentricis et radiantibus undique creberrimè decussatâ, cardine dentibus duabus parvis cardinalibus et duobus brevibus erectis soldistantibus lateralibus in utrâque valvâ; albidâ.*

THE OBLIQUE LUCINA. Shell nearly orbicular, anteriorly obliquely inclined, rather solid, very closely decussated throughout with radiating and concentric striæ, hinge with two small central teeth and two rather distant short erect lateral teeth in each valve; whitish.

Hab. Cluses; H. Benson.

The decussated sculpture of this obliquely inclined species is very close and obtuse; and the hinge is characterized in each valve by two widely separated erect lateral teeth.

Species 43. (Mus. Cuming.)

LUCINA JANEIRENSIS. *Luc. testâ subquadrato-orbiculari, gibbosâ, tunidâ, concentricè rudè striatâ; albidâ.*

THE JANEIRO LUCINA. Shell somewhat squarely orbicular, gibbous, swollen, concentrically rudely striated; whitish.

Hab. Rio Janeiro.

A gibbous shell of very simple character, without any lunule.

Species 44. (Mus. Cuming.)

LUCINA OCHRACEA. *Luc. testâ orbiculari, convexâ, sub-Pectiniformi, ad latera superficialiter excavatâ, radiatim creberrimè tenuiliratâ, liris ad latera distantioribus, concentricè subtilissimè laminatâ; opaco-luteâ.*

THE YELLOW LUCINA. Shell orbicular, convex, somewhat Pecten-shaped, superficially excavated at the sides, radiately very closely finely ridged, ridges more distant at the sides, concentrically very finely laminated; opake yellow.

Hab. —— ?

This species is stained within and without with a peculiar opake yellow, which has the appearance of having been applied artificially, but that I have seen other specimens, besides the one figured, similarly coloured.

Species 45. (Mus. Cuming.)

LUCINA SCABRA. *Luc. testâ orbiculari, convexâ, sub-Pectiniformi, ad latera subexcavatâ, radiatim tenuiliratâ, liris alternatim majoribus, undique imbricato-squamatis, lunulâ elongato-cordatâ, subprofundè impressâ; semipellucido-albâ.*

THE ROUGH LUCINA. Shell orbicular, convex, somewhat Pecten-shaped, slightly excavated at the sides, radiately finely ridged, ridges alternately larger, imbricately squamate throughout, lunule elongately cordate, rather deeply impressed; semitransparent white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vi. p. 227.

Hab. Bay of Mexico.

The radiating ridges of this species are characterized throughout with scales, after the manner of *Lima squamosa*, and differ from those of the following in having no concentric sculpture.

Species 46. (Mus. Cuming.)

LUCINA MURICATA. *Luc. testâ orbiculari, convexâ, sub-Pectiniformi, ad latera subexcavatâ, liris radiantibus et concentricis undique crebernisè cancellatis, liris ad latera distantioribus et muricatis; albidâ, interdum ferrugineo pallidè tinctâ.*

THE PRICKLY LUCINA. Shell orbicular, convex, somewhat Pecten-shaped, slightly excavated at the sides, very closely cancellated throughout with radiating and concentric ridges, which are more distant from each other at the sides, and prickly; white, sometimes faintly tinged with rust.

Tellina muricata, Chemnitz, Conch. Cab. vol. xi. pl. 199. f. 1945, 6.

Hab. Tumbez, Peru (in soft mud at a depth of eleven fathoms); Cuming.

Distinguished from the preceding by its concentric sculpture, and prickly, rather than scaly, ridges.

Species 47. (Mus. Cuming.)

LUCINA DIVARICATA. *Luc. testâ orbiculari, subglobosâ, lævigatâ, bifariam sulcato-striatâ, striis ante medium regulariter divaricatâ, marginibus incrementi denticulatis, præcipuè ad latus posticum; pellucido-albâ.*

THE DIVARICATE LUCINA. Shell orbicular, somewhat globose, smooth, groove-striated in two ways, striæ regularly divaricate from before the middle, edges of growth denticulated, especially on the posterior side; transparent white.

Tellina divaricata, Linnæus, Syst. Nat. 12th edit. p. 1120.
Lucina divaricata, Lamarck.
Tellina dentata, Wood.

Hab. West Indies. Cape York, North Australia; Jukes.

Mainly distinguished from the allied species which follow, by the denticulated borders, which have formed at intervals the margin of the shell, and which are most prominent on the posterior side.

Species 48. (Mus. Cuming.)

LUCINA ORNATA. *Luc. testâ orbiculari, gibbâ, axi subobliquè inclinatâ, bifariam sulcato-striatâ, striis ante medium regulariter divaricatis, marginibus incrementi subobtusè denticulatis, præcipuè ad latus posticum; semipellucido-albâ.*

THE ORNAMENTED LUCINA. Shell nearly orbicular, gibbous, rather obliquely inclined on the anterior side, groove-striated in two ways, striæ regularly divaricate from before the middle, margins of growth rather obtusely denticulated, especially on the posterior side; semitransparent white.

Hab. —— ?

The detail of sculpture is the same in this species as in the preceding, except that the margins of growth are less conspicuously denticulated; the shell differs, however, materially in form, being inclined obliquely on the anterior side, whilst it is uniformly of smaller size.

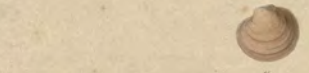
Species 49. (Mus. Cuming.)

LUCINA EBURNEA. *Luc. testâ orbiculari, globoso-convexâ, solidiusculâ, bifariam sulcato-striatâ, striis ante medium regulariter divaricatis; pellucido-albâ.*

THE IVORY LUCINA. Shell orbicular, globosely convex, rather solid, groove-striated in two ways, striæ regularly divaricate before the middle; transparent white.

Hab. St. Elena, West Columbia and Panama (in sandy mud at a depth of eleven fathoms); Cuming.

More globose in form than the two preceding species with the divaricating grooves rather more distant from each other, more circularly disposed at the sides, and not denticulated at the margin.



Sowerby, del et lith.

Frederic Reeve, imp.

LUCINA.

PLATE IX.

Species 14. (Mus. Cuming.)

LUCINA NOVO-ZELANDICA. *Luc. testâ subglobosâ, inæquilaterâ, posticè lunulâ, concentricè rudè irregulariter striatâ, lunulâ nullâ, cardine dentibus centralibus duabus in utrâque valvâ, quarum unâ erectâ, bifidâ; albidâ, epidermide fuscescente indutâ.*

THE NEW ZEALAND LUCINA. Shell somewhat globose, inequilateral, swollen posteriorly, concentrically rudely irregularly striated, no lunule, hinge with two central teeth in each valve, one of which is erect and bifid; whitish, covered with a light brown epidermis.

Hab. New Zealand.

The hinge of this species is distinguished by a central bifid tooth, characteristic of the genus *Diplodonta*.

Species 25. (Mus. Cuming.)

LUCINA CORNEA. *Luc. testâ Cardiformi, gibbosâ altiore quam longâ, depressiusculâ, lunulâ nullâ, concentricè impresso-striatâ, cardine dentibus centralibus duabus in utrâque valvâ, quarum unâ bifidâ; albidâ, epidermide corneâ pallidè olivaceâ nitente indutâ.*

THE HORNY LUCINA. Shell Cardium-shaped, a little higher than long, rather depressed, no lunule, concentrically impressly striated, hinge with two central teeth in each valve, one of which is bifid; whitish, covered with a light olive shining horny epidermis.

Hab. Gulf of Nicoya (in course sand at a depth of from ten to thirteen fathoms); Cuming.

The first of a small group included in this plate, all having a bifid tooth nearly similar to that of *Diplodonta*, but more especially characterized by the presence of a shining horny epidermis.

Species 50. (Mus. Cuming.)

LUCINA NITENS. *Luc. testâ depresso-orbiculari, sub-Cordiformi, posticè subobliquè inclinatâ, concentricè impresso-striatâ, lunulâ nullâ, cardine dentibus centralibus duobus in utrâque valvâ, quarum unâ bifidâ; albidâ, epidermide corneâ olivaceâ nitente indutâ.*

THE SHINING LUCINA. Shell depressly orbicular, somewhat Cardium-shaped, posteriorly rather obliquely inclined, concentrically impressly striated, no lunule, hinge with two central teeth in each valve, one of which is bifid; whitish, covered with a shining horny epidermis.

Hab. Isle of Muerte, Bay of Guayaquil (in sandy mud at a depth of about eleven fathoms); Cuming.

Distinguished from the preceding by a more depressly orbicular form, which, though slight, appears to be characteristic.

Species 51. (Mus. Metcalfe.)

LUCINA ADANSONI. *Luc. testâ depresso-orbiculari, subæquilaterâ, concentricè tenuistriatâ, lunulâ nullâ, cardine dentibus centralibus duabus in utrâque valvâ, quarum unâ bifidâ; albidâ, epidermide tenui corneâ nitente, pallidè olivaceâ, pleruraque medio ferrugineo tinctâ, indutâ.*

ADANSON'S LUCINA. Shell depressly orbicular, nearly equilateral, concentrically finely striated, no lunule, hinge with two teeth in each valve, one of which is bifid; whitish, covered with a thin shining horny epidermis of a pale olive-colour, mostly rust-stained about the middle.

Le Paluu, Adanson.

Hab. Senegal.

Covered with the same shining horny epidermis which characterizes the two preceding species from Central America.

Species 52. (Mus. Hanley.)

LUCINA SARSII. *Luc. testâ subquadrato-orbiculari, inæquilaterâ, tenuissimâ, inflatâ, posticè sulcatâ, concentricè subtilissimè rudè striatâ, areâ ligamenti oblongo-ovali, subexcavatâ, lunulâ oblongo-ovali, leviter excavatâ, cardine edentulâ; albâ.*

SARS' LUCINA. Shell somewhat squarely orbicular, very thin, inflated, grooved on the posterior side, concentrically very finely rudely striated, area of the ligament oblong-oval, a little excavated, lunule oblong-oval, slightly excavated, hinge toothless; white.

Axinus Sarsii, Loeven, Ind. Moll. Scandinav.

Hab. Sweden.

A very thin inflated toothless shell, differing from the tumid edentulate *Lucinæ* of Pl. V. by the characteristic oval excavated lunule and ligamentary area.

Species 53. (Mus. Hanley.)

LUCINA GLOBULARIS. *Luc. testâ subglobosâ, tenui, inflatâ, præcipuè circa umbones, lævigatâ, aut concentricè irregulariter tenuistriatâ, lunulâ nullâ, cardine dentibus duobus centralibus in utrâque valvâ; albidâ.*

THE GLOBULAR LUCINA. Shell subglobose, thin, inflated, especially around the umboes, smooth or concentrically irregularly finely striated, no lunule, hinge with two central teeth in each valve; whitish.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vi. p. 281.

Hab. New Zealand.

This shell in Mr. Hanley's cabinet is referred to the above-named Lamarckian species, on the authority of a continental collector from whom it was received.

Species 54. (Mus. Cuming.)

LUCINA GIBBA. *Luc. testâ globosâ, valdè gibbosâ, Isocardiæformi, bifariam latè sulcatis, liris corrugato-undatis, ante medium divaricatis, interstitiis concentricè subtilissimè striatis, lunulâ parvâ, rotundato-cordatâ; albâ.*

THE GIBBOUS LUCINA. Shell globose, very gibbous, Isocardia-shaped, broadly grooved in two directions, ridges corrugately waved, divaricate before the middle, interstices concentrically very finely striated, lunule small, rotundately cordate; white.

GRAY, Annals of Philosophy, 1825, p. 136.

Tellina divaricata pars, Chemnitz, Conch. Cab. vol. vi. pl. 13. f. 130.

Tellina spheroides, Conrad.

Hab. ——?

This fine species may be readily distinguished by its very gibbous Isocardia-like form, and broad corrugate grooving.

Species 55. (Mus. Cuming.)

LUCINA SERICATA. *Luc. testâ subquadrato-orbiculari, posticè obliquè inclinatâ, tenui, depressâ, concentricè impresso-striatâ, lunulâ nullâ; semipellucido-albâ, epidermide corneâ pallidè olivaceâ nitente indutâ.*

THE SILK-CLAD LUCINA. Shell somewhat squarely orbicular, inclined obliquely on the posterior side, thin, depressed, concentrically impressly striated, no lunule; semitransparent white, covered with a shining pale olive horny epidermis.

Hab. ——?

This and the following species are of the same character as the second and third of this plate, differing, however, essentially in form.

Species 56. (Mus. Cuming.)

LUCINA TELLINOIDES. *Luc. testâ depresso-orbiculari, posticè subobliquè inclinatâ, concentricè subirregulariter et tenuissimè impresso-striatâ, lunulâ nullâ; semipellucido-albâ, epidermide corneâ flavicante nitente indutâ.*

THE TELLINA-LIKE LUCINA. Shell depressly orbicular, rather obliquely inclined on the posterior side, concentrically rather irregularly and very finely impressly striated, no lunule; semitransparent white, covered with a shining yellowish-horny epidermis.

Hab. Isle of Muerte, Bay of Guayaquil (in sandy mud at a depth of about eleven fathoms); Cuming.

This and the allied species represented in this plate, should, doubtless, be arranged under a separate genus allied to *Diplodonta*.

Species 57. (Mus. Cuming.)

LUCINA FRIABILIS. *Luc. testâ orbiculari, subæquilaterâ, tenui, tumidâ, concentricè subirregulariter et tenuissimè striatâ, lunulâ nullâ; roseo-albâ, epidermide tenui corneâ nitente indutâ.*

THE FRIABLE LUCINA. Shell orbicular, nearly equilateral, thin, swollen, concentrically rather irregularly and very finely striated, no lunule; pinkish-white, covered with a thin shining horny epidermis.

Hab. ——?

Belonging to the same type as the preceding species, from which it differs specifically in being of a more rounded swollen form and of larger size.

35.

37.

38.

41. b.

58.

36. b.

59.

59. b.

66. a.

66. b.

Sowerby, del. et lith.

Frederic Reeve, imp.

LUCINA.

PLATE X.

Species 35. (Mus. Cuming.)

LUCINA BULLULA. *Lnc. testâ globoso-ovatâ, tenui, inflatâ, lateribus subalatâ, concentricè subtilissimè striatâ, lunulâ vix ullâ, cardine edentulo; incarnato-albâ.*

THE LITTLE BUBBLE LUCINA. Shell globosely ovate, thin, inflated, slightly winged at the sides, concentrically very finely striated, scarcely any lunule, hinge toothless; flesh-tinged white.

Hab. ——?

A very slight species partaking of the form and general character of *Cyrenoides*.

Species 37. (Mus. Cuming.)

LUCINA ANTILLARUM. *Lnc. testâ subcordato-ovatâ, crassiusculâ, radiatim subobsoletè liratâ, lirix planis, subdistantibus, striis elevatis concentricis concinnè clathratâ, lunulâ parvâ, cordatâ; albidâ, luteo tinctâ.*

THE WEST INDIA LUCINA. Shell somewhat cordately ovate, rather thick, radiately rather obsoletely ridged, ridges flattened, rather distant, neatly latticed with concentric raised strie, lunule small, cordate; whitish, tinged with yellow.

Hab. Island of St. John's, West Indies; Hartvig.

Of an unusually gibbous cordate form, very neatly latticed throughout.

Species 38. (Mus. Cuming.)

LUCINA PECTEN. *Lnc. testâ suborbiculari, obliquè prodactâ, valdè inequilaterâ, compressâ, lirix subtilibus radiantibus et concentricis densiclathratâ, lunulâ lanceolato-oblongâ; lutescente-albâ.*

THE COMB LUCINA. Shell nearly orbicular, produced obliquely, very inequilateral, compressed, closely latticed with fine radiating and concentric ridges, lunule lanceolately oblong; yellowish-white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vi. p. 230.

Hab. Mediterranean.

This, and not the shell described and figured at Sp. 34, appears to be the true *L. pecten* inhabiting the Mediterranean and coast of Senegal. For the former species from the West Indies and the Pacific, I propose to substitute the name *L. occidentalis*.

Fig. 41 *b*. (Mus. Cuming.)

The shell here figured represents a larger and finer state than that given at Pl. VIII. of *L. leucoma*, Sp. 41.

Species 58. (Mus. Cuming.)

LUCINA OVULUM. *Lnc. testâ globosâ, inflatâ, lævigatâ, aut, sub lente, radiatim tenuissimè striatâ, lunulâ oblongo-cordatâ, superficiariâ, cardine edentulo; albidâ, intus hic illic pallidè croceâ.*

THE LITTLE EGG LUCINA. Shell globose, inflated, smooth, or, beneath the lens, radiately very finely striated, lunule oblong-cordate, superficial, hinge toothless; whitish, tinged here and there with light saffron-colour.

Hab. Mauritius.

A light toothless shell similar to *L. bullula*, but more gibbous and truly globose.

Fig. 36 *b*. (Mus. Cuming.)

A small variety of the British *L. rotundata*.

Species 59. (Mus. Cuming.)

LUCINA LEUCOPHÆATA. *Lnc. testâ suborbiculari, crassiusculâ, concentricè rugoso-striatâ, lunulâ planatâ, vix ullâ, cardine dentibus duobus divaricatis, quorum uno duplicato, in utrâque valvâ; sordidè albâ, quasi erosâ, epidermide olivaceâ partim indutâ.*

THE RUSSET-CLAD LUCINA. Shell nearly orbicular, rather thick, concentrically roughly striated, lunule flattened, scarcely any, hinge composed of two divaricate teeth in each valve, one of which is duplicate; dead white, as if eroded, partially covered with an olive epidermis.

Hab. ——?

This is rather a doubtful *Lucina*, of stout growth, and covered with an epidermis, which is not usual in the genus.

Fig. 39 *b*. (Mus. Cuming.)

An authentic specimen of Philippi's *Lucina Hiatelloides*, which proves to be identical with *L. spinifera*.

Species 60. (Fig. *a*, *b*, Mus. Cuming.)

LUCINA ICTERICA. *Luc. testâ subtrigono-orbiculari, solidâ, subcompressâ, concentricè laminato-striatâ, striis umbones versus plus minus abrasis, sub lente minutissimè radiatim striatâ; lutescente-albâ.*

THE JAUNDICED LUCINA. Shell somewhat triangularly orbicular, solid, rather compressed, concentrically laminately striated, the striæ being more or less abraded towards the umboes, beneath the lens very minutely radiately striated; yellowish-white.

Hab. —— ?

In this species the ligament is situated in an oblique internal pit, as in the British *L. leucona*, partaking in that respect of the character of *Amphidesma*.

61.

62.

63.

64.

65.

65.a.

67.

66.3.

68.

69.

Sowerby, del et lith.

Frederic Reeve imp.

LUCINA.

PLATE XI.

Species 61. (Mus. Cuming.)

LUCINA ARCUATA. *Luc. testâ obliquè orbiculari, subcompressâ, lævigatâ, striis undulatis transversis exsculptâ, lunulâ oblongo-cordatâ; semipellucido-albâ.*

THE RIPPLED LUCINA. Shell obliquely orbicular, rather compressed, smooth, transversely engraved with waving striæ, lunule oblong-cordate; semitransparent white.

Cardium arcuatum, Montagu, Test. Brit. p. 85. pl. 3. f. 2.
Lucina arcuata, Fleming.
Tellina divaricata pars, Linnæus.
Lucina divaricata, Forbes and Hanley.
Lucina commutata, Philippi.

Hab. Mediterranean.

This is one, among many instances, in which two or three species were confounded by Linnæus under one head. Irrespective of its small size, it differs from the true *L. divaricata* of the West Indies in not being denticulated on the posterior side, and in the waved transverse striæ being less sharply divaricate.

Species 62. (Mus. Cuming.)

LUCINA FLEXUOSA. *Luc. testâ subtrigono-orbiculari, lævigatâ, posticè sulcatâ, sulco latiusculo subprofundo ab umbone in utrâque valvâ radiante, cardine dente unico valvisque; albidâ.*

THE FLEXUOUS LUCINA. Shell somewhat triangularly orbicular, smooth, grooved posteriorly, the groove being rather broad and deep, radiating in each valve from the umbo, hinge with a single obscure tooth; whitish.

Venus sinuosa, Donovan, British Shells, vol. ii. pl. 42. f. 2.
Tellina flexuosa, Montagu.
Amphidesma flexuosa, Lamarck.
Lucina sinuata, Lamarck.
Cryptodon flexuosus, Turton.
Axinus flexuosus, Loevén.

Hab. Britain; Sweden; Massachusetts, U. S.

The accompanying figure of this species is taken from an American specimen, supplied by Dr. Gould. Upon our own shores it is of a more irregular and flexuous growth.

Species 63. (Mus. Cuming.)

LUCINA FERRUGINOSA. *Luc. testâ orbiculari, subobliquâ, posticè obsoletè sulcatâ, concentricè obscurè costellatâ, umbonibus subprominentibus; sordidè ferrugineo-fuscâ.*

THE RUSTY LUCINA. Shell orbicular, somewhat oblique, posteriorly obsoletely grooved, concentrically obscurely ribbed, umboes rather prominent; dirty rust-brown.

FORBES and HANLEY, Brit. Moll. vol. ii. p. 60. pl. 34. f. 1.
Kellia ferruginosa, Forbes.
Clausina ferruginosa, abyssicola, and *Croulinensis*, Jeffreys.

Hab. Crete and the Morea; Captains Graves and Spratt. Loch Fyne and Skye, North Britain (in mud at the depth of 120 fathoms); M'Andrew.

This little species may be easily recognized by its thick ferruginous coating.

Species 64. (Mus. Cuming.)

LUCINA GEMMA. *Luc. testâ quadrato-oblongâ, planâ, tenuissimâ, utrinque sulcatâ et alatâ, concentricè elegantèr laminatâ, laminis subtilissimè serratis, ad latera squamato-productis; pellucido-albâ.*

THE GEM LUCINA. Shell squarely oblong, flattened, very thin, grooved and winged on each side, concentrically elegantly laminated, laminæ very finely serrated, squamately produced at the sides; transparent white.

Hab. Loay, Island of Bohol, Philippines.

An exquisitely sculptured species, allied to *L. dentifera*.

Species 65. (Mus. Cuming.)

LUCINA DIGITALIS. *Luc. testâ subtrigono-orbiculari, convexâ, undique obliquè circulariter striato-sulcatâ; albidâ, rufo radiatâ, epidermide lutescente indutâ.*

THE DIGITAL LUCINA. Shell somewhat triangularly orbicular, convex, obliquely circularly striately grooved throughout; whitish, rayed with red, covered with a yellowish epidermis.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. vi. p. 231.
Hab. Gibraltar; M'Andrew.

Very characteristically engraved with fine grooves, ranging obliquely across the shell in a circular manner.

Species 66. (Fig. *a*, *b*, Mus. Cuming.)

LUCINA PISUM. *Luc. testâ globoso-cordatâ, solidâ, costis concentricis et radiatis densiclathratâ, interstitiis foveolatis, latere postico sulcato, antico brevi, lunulâ parvâ, profundè excavatâ; albidâ.*

THE PEA LUCINA. Shell globosely cordate, solid, thickly latticed with concentric and radiating ribs, of which the interstices are pitted, posterior side grooved, anterior short, lunule small, deeply excavated; whitish.

Hab. Port Essington; Jukes. Singapore (in sandy mud at the depth of seven fathoms); Cuming.

A small solid Isocardia-like species about the size and form of a pea, engraved with strong blunt latticed sculpture.

Species 67. (Mus. Cuming.)

LUCINA LENTICULA. *Luc. testâ orbiculari, depressiusculâ, concentricè creberrimè lamínato-striatâ, lunulâ oblongo-cordatâ; albâ.*

THE LITTLE LENS LUCINA. Shell orbicular, rather depressed, concentrically very closely laminately striated, lunule oblong-cordate; white.

Hab. ——?

Partaking very much of the form of *Artemis*, but wanting the lanceolate pallial sinus which is characteristic of that genus.

Species 68. (Mus. Cuming.)

LUCINA CALCULUS. *Luc. testâ cordato-ovatâ, altiore quam longâ, crassiusculâ, lævigatâ, politâ; nitidè albâ.*

THE PEBBLE LUCINA. Shell cordately ovate, higher than long, rather thick, smooth, polished; shining white.

Hab. Gulf of Nicoiya (dredged from among coarse sand at a depth of from ten to thirteen fathoms); Cuming.

A small smooth shining white shell of rather solid growth.

Species 69. (Mus. Cuming.)

LUCINA FABULA. *Luc. testâ oblongâ, planiusculâ, utrinque subalatâ, concentricè eleganter lamínato-striâ, areâ ligamenti lanceolato-planâ, lunulâ lanceolâ, convexâ; pellucido-albâ.*

THE LITTLE BEAN LUCINA. Shell oblong, rather flattened, slightly winged on each side, concentrically elegantly laminately striated, area of the ligament lanceolately flattened, lunule lanceolate, convex; transparent white.

Hab. Batangas, Island of Luzon, Philippines (in coral sand at a depth of nine or ten fathoms); Cuming.

Slightly produced on each side, and sculptured throughout with delicate concentric laminæ.

LUCINA.

	Plate.	Species.
Adansoni, D'Orbigny	VI.	30
alba, Turton	III.	13
Amphidesmoides, Desh.	VIII.	41
Anatellinoides, *Reeve*	IV.	19
annulata, *Reeve*	IV.	17
Antillarum, *Reeve*	X.	37
arcuata (*Cardium*), Montagu	XI.	61
argentea, *Reeve*	II.	6
aurantia, *Deshayes*	VI.	31
barbata, *Reeve*	IV.	16
bicornis, *Reeve*	II.	8
borealis (*Venus*), Linn.	III.	13
bullula, *Reeve*	X.	35
calata, *Reeve*	VI.	27
calculus, *Reeve*	XI.	68
Children, *Gray*	III.	12
columbella, *Lamarck*	VI.	30
consentale, Philippi	XI.	61
cornea, *Reeve*	IX.	25
dentifera, *Jonas*	III.	10
digitalis, *Lamarck*	XI.	65
divaricata (*Tellina*), Linn.	VIII.	47
divaricata, Forbes & Hanley	XI.	61
eburnea, *Reeve*	VIII.	49
edentula (*Venus*), Chemn.	II.	9
edentula, Philippi	V.	23
exasperata, *Reeve*	I.	4
fabula, *Reeve*	XI.	69
ferruginosa, *Forbes & Hanley*	XI.	63
fibula, *Reeve*	VII.	33
flexuosa (*Venus*), Donovan	XI.	62
fribalis, *Reeve*	IX.	57
funiculata, *Reeve*	VII.	40
gemma, *Reeve*	XI.	64
gibba, *Gray*	IX.	54
globularis, *Lamarck*	IX.	53
Hustellioides, Philippi	VII. and X.	39
ictérica, *Reeve*	X.	60
interrupta (*Cyth.*), Lamarck	II.	5
Jamaicensis (*Venus*), Chemn.	II.	7
Janeirensis, *Reeve*	VIII.	43
lactea, Lamarck	VIII.	41
lenticula, *Reeve*	XI.	67
leucoma, *Turton*	VIII.	41
leucophæota, *Reeve*	X.	59
malum, *Reeve*	V.	26
muricata (*Tellina*), Chemn.	VIII.	46
nitens, *Reeve*	IX.	50
Novo-Zelandica, *Reeve*	IX.	14
obliqua, *Reeve*	VIII.	42
occidentalis, *Reeve*	VII.	34
ochracea, *Reeve*	VIII.	44
ornata, *Reeve*	VIII.	48
ovulum, *Reeve*	X.	58
ovum, *Reeve*	V.	21
pecten, *Lamarck*	X.	38
Pennsylvanica (*Venus*), Linn.	VI.	29
Philippiana, *Reeve*	V.	23
Philippinarum, *Hanley*	IV.	18
pila, *Reeve*	V.	24
pisum, *Reeve*	XI.	66
punctata (*Venus*), Linn.	I.	2
radula, Lamarck	III.	13
rotundata, *Turton*	VII.	36
rugifera, *Reeve*	I.	1
Sarsii (*Axinus*), Loeven	IX.	52
scabra, *Lamarck*	VIII.	45
Senegalensis, *Reeve*	IX.	51
sericata, *Reeve*	IX.	55
simplex, *Reeve*	III.	11
sinuata, Lamarck	XI.	62
speciosa, *Reeve*	VI.	32
spinifera (*Venus*), Montagu	VII.	39
sulcata, *Reeve*	IV.	20
Tellinoides, *Reeve*	IX.	56
tigerina (*Venus*), Linn.	I.	3
tumida, *Reeve*	V.	22
venusta, *Philippi*	III.	15
virgo, *Reeve*	VI.	28

ERRATA.

Sp. 34. For *L. pecten*, Lamarck, read *L. occidentalis*, Reeve.

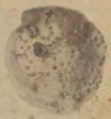
Sp. 51. For *L. Adansoni*, read *L. Senegalensis*, Reeve.

MONOGRAPH

OF THE GENUS

HEMIPECTEN.

Much more eath to tell the stars on hy,
Albe they endless seeme in estimation,
Than to recount the sea's posterity:
So fertile be the floods in generation.—*Spenser.*



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HEMIPECTEN.

PLATE I.

Genus HEMIPECTEN, *Adams* and *Reeve*.

Testa adhærens, inæquivalvis, irregularis, hyalina, valvâ superiori antice simplici, postice vix auriculatâ, valvâ inferiori antice simplici, postice conspicuè auriculatâ, infra auriculam profundè sinuatâ et denticulatâ; cardine edentulo, ligamento leviter marginali, cartilagine parvo in cavitatem centralem.

Shell attached, inequivalve, irregular, hyaline, upper valve simple anteriorly, very slightly auriculated posteriorly, lower valve simple anteriorly, conspicuously auriculated posteriorly, deeply sinuated and denticulated beneath the auricle; hinge edentulate, ligament slightly marginal, with a small cartilage in a central cavity.

The subject of the present new genus, proposed by Mr. Arthur Adams and myself in the 'Mollusca of the Voyage of the Samarang,' is an inequivalve shell of the lamellibranchiate family *Pectinacea*, intermediate in its characters between *Pecten* and *Anomia*. Like *Anomia* it is a thin hyaline substance, adhering to some foreign body, and of an irregular growth, according to the inequalities of its place of attachment. Like *Pecten* the hinge consists of a slight marginal ligament, intersected in the middle by a small triangular cartilage, situated in the hollow of a superficial cavity in each valve. The under valve is distinguished by a conspicuous auricle on the posterior side, and beneath this is a sinus so deeply cut in the direction of the hinge-margin as to remind one of *Pedum*, especially when presented with the under valve closed upon the hollow of the upper one, as in Fig. 1 *b*, 2 *b*; and the margin of this sinus, as indicated in some of the *Pectens*, is furnished with a row of sharp erect denticles. The shell bears some resemblance to *Pedum*, from the circumstance of there being no corresponding sinus in the upper valve; but it is apparently only a character of resemblance, not one of affinity. The shell has no umbonal area; nor are the sides of either valve reflected.

The observations to be derived from the microscopic structure of *Hemipecten* which has been kindly exhibited to me by Dr. Carpenter, are, however, singularly contradictory to the views presented by its external characters. Of the two specimens collected, the texture and composition of both valves consist of a hyaline semi-membranous lamina, presenting a series of closely-packed concentric lines, the interstices of which are minutely rayed with much finer lines. Submitted to the microscope, the flat valve in both specimens (Fig. 1 *a*, 2 *d*,) is permeated by copious tubuli, a character in which the genus agrees with *Pedum* and with some species of *Lima*, and differs from *Pecten*. This tubularity Dr. Carpenter observed to exist also in the upper valve of the colourless specimen (Fig. 1 *c*), but not in the other (Fig. 2 *e*), so far as the Bryozoon upon its surface allows of an examination.

The upper valve of the coloured specimen Fig. 2 *e*, possesses a rudimental sculpturing over its entire surface; but as it may have received this from the parasite, and exhibits no other appreciable point of difference, we have not ventured to distinguished it specifically from the white specimen.

Species 1. (Fig. 1 and 2, Mus. Belcher.)

HEMIPECTEN FORBESIANUS. *Hemip. testâ orbiculari, Anomiæformi, tenuissimâ, hyalinâ, concentricè lineatâ, lineorum interstitiis eximiè reticulatis; valvâ inferiori planulatâ, auriculâ longitudinaliter radiatâ, sinu profundo, valvâ superiori convexâ, vix auriculatâ; pellucido-albâ, valvâ superiori interdum rufo-aurantiè radiatâ.*

FORBES' HEMIPECTEN. Shell orbicular, Anomia-shaped, very thin, hyaline, concentrically lineated, interstices between the lines delicately reticulated; lower valve flattened, auricle longitudinally rayed, sinus deep, upper valve convex, scarcely auriculated; transparent white, upper valve sometimes rayed with orange-red.

ADAMS and REEVE, Proc. Zool. Soc. 1849, p. 133, *Mollusca*, pl. 1. f. 2. and Moll. Voy. Samarang.

Hab. Sooloo Archipelago, Eastern Seas (dredged from a coral and stony bottom at a depth of about fourteen fathoms); Belcher.

Two specimens of this interesting new form were collected during the voyage of H.M.S. Samarang, one smooth and white, the other slightly sculptured in a decussately corrugated style, probably from the effect of the Bryozoon which covers it, and rayed with orange-red. The under valve is smooth in both specimens, showing it to have been attached; the upper valve is more or less covered in both with various parasitic objects.

We have the pleasure to name the species in honour of Professor Edward Forbes, who notices the genus, in his valuable work on the British Mollusca, as affording a curious intermediate link between *Pecten* and *Anomia*.

September, 1849.

HEMIPECTEN.—Plate I.

Fig. 1. represents the smooth colourless specimen,—*a*, interior of the under valve; *b*, the valve closed, presenting the exterior of the under valve; *c*. the valves closed, presenting the exterior of the upper valve.

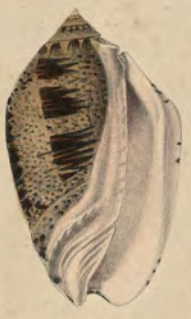
Fig. 2. represents the coloured and slightly corrugated specimen,—*a*, interior of the upper valve, which is not shown of the former specimen; *b*, the valves closed, presenting the exterior of the under valve; *c*, the valves closed, presenting the exterior of the upper valve; *d*, interior of the under valve;—*all of the natural size.*

MONOGRAPH

OF THE GENUS

O L I V A.

"What hid'st thou in thy treasure-caves and cells,
Thou hollow-sounding and mysterious main?
Pale glistering pearls, and rainbow-coloured shells,
Bright things that gleam unreck'd of, and in vain."—*Mrs. Hemans.*



1. *a.*

2. *a.*

2. *b.*

1. *b.*

Sowerby, del. et lith.

Frederic Reeve, imp.

OLIVA.

PLATE I.

Genus OLIVA, *Bruguière.*

Testa oblonga, lævis, subcylindracea, basi emarginata, spirâ plerumque brevisculâ, suturis peculiariter canaliculatis, columellâ plicatâ, plicis obscuris, variis, sæpè plurimis et callosis. Apertura elongata, angusta, inferdum subpatula.

Shell oblong, smooth, somewhat cylindrical, emarginated at the base, spire generally rather short, with the sutures peculiarly canaliculated, columella plaited, plaits obscure, variable, often flattened and callous. Aperture elongate, narrow, sometimes rather wide.

The Olives are a very distinct group of mollusks, partaking of the characters of *Cypræa* and *Ancillaria*, but more of the latter than of the former genus. The shell, as may be gathered from its enamelled interior, is enveloped by certain parts of the animal, and like that of *Cypræa* is generally composed of two or more layers of different pattern. This variety of colouring is not, however, shown at different stages of the shell's growth as in *Cypræa*: it is only to be discovered by removing the outer coat with acid. Hence it may be inferred that the different coatings are deposited simultaneously during the formation of the shell, whilst the mantle is furled, so to speak, over the edge of the lip, and held in a state of tension by a cord which passes into the narrow sutural channel of the spire. Specimens of *O. gibbosa* and *Brasiliensis* are frequently sold by dealers with the outer coating removed to show the pattern beneath, in order to give them the appearance of other species.

The genus *Oliva* has generally been regarded as one of which the species are extremely difficult to determine. They have not proved so on examination. Species, like *O. reticularis*, for example, which differ very much in form, are distinguished by a marked peculiarity of pattern; and others, like *O. inflata*, which present an almost endless variety of pattern, are characterized by some peculiarity of form. In *O. lapidula*, which varies in an extraordinary degree both in form and pattern, the shell is constantly distinguished by the same particular colour in the interior, and there are several species, like *O. erucata*, whose varieties are but so many different phases of the same idea of pattern.

The principal localities of this genus are Mauritius and the Philippine Islands in the eastern hemisphere, and Central America in the western. Out of a hundred species described in the following monograph, the habitats of about seventy are determined.—Mauritius, Ceylon, the Moluccas and Philippine Islands yield about twenty-five species, including the large and richly-coloured *O. tremulina*, *erythrostoma*, *Olympiadina*, *nobilis*, *textilina*, &c.; and Central America about thirty species. Fifteen of these are from Panama, Guayaquil, Nicaragua, Mexico, &c., among which are the giant *O. porphyria*, and the beautiful *O. angulata*, *splendidula*, *polpasta*, *testacea*, &c., and fifteen from the West Indies, all of which are small, with the single exception *O. fusiformis*. The most northern range of the genus is at Senegal, West Africa, where, of five species, two belong to distinct types, one, *O. acuminata*, having a representative on the coast of Sumatra in *O. subula*, and the other, *O. hiatula*, a representative at Real Llejos, Mexico, in *O. testacea*. At Zanzibar on the opposite shore of Africa is the characteristic *O. inflata*; and two very peculiar species, *O. Indusica* and *Ancillarioides*, are recorded from Kurrachee at the mouth of the Indus. Three species from the coast of Brazil, *O. Brasiliensis*, *patula*, and *aquatilis*, present forms which are quite peculiar to that locality. Only two species, of very different typical character, are recorded from the west coast of South America, one of tolerable size and extremely variable in colouring, *O. Peruviana*, the other of small dimension, *O. columellaris*. Three species are described from the Society and Feejee Islands, and two from Australia.

The following may be noted as peculiar instances of distribution. The only two species at present known from the Red Sea are identical with two inhabiting the West Indies, *O. oniica* and *jaspidea*. *O. reticularia*, inhabiting the Gulf of California, is found in a smaller state in the West Indies. *O. Dactosi* is found at the Philippines in the Eastern Seas, and at the Society Islands in the Pacific. *O. haleonfina* inhabits the Gulf of California, and also one of the Galapagos Islands. Lastly, we have a species, *O. erucata*, from four different localities singularly remote from each other,—the Philippine Islands, Zanzibar, Australia, and the Society Islands.

Species 1. (Fig. *a*, *b*, Mus. Steere.)

OLIVA ANGULATA. *Oliv. testâ ovatâ, ventricosâ, crassissimâ, ponderosâ, supra medium angulato-tumidâ, spirâ brevisculâ, columellâ valdè callosâ, planiplicatâ, plicis fortè obsoletis: cinereo-albidâ, olivaceo et griseo mar-*

ucratâ, strigis transversis nigricante-castaneis, acutè angulatis, hic illic longitudinaliter pictâ, columellâ pallidè carneolâ, roseo tinctâ.

The angled Olive. Shell ovate, ventricose, very thick, ponderous, angularly swollen above the middle, spire rather short, columella very callous, flatly plaited, plaits almost obsolete; ash-white, mottled with olive and grey, longitudinally painted here and there with sharply angled transverse very dark chestnut streaks, columella pale carnelion tinged with rose.

Lamarck, Anim. sans vert. (Deshayes' edit.) vol. x. p. 607.

Voluta incrassata, Dillwyn.

Eadem var. *Oliva azeuula*, Duclos.

Hab. Gulf of Nicoiya, Central America (in sandy mud at the depth of nine fathoms); Cuming.

There is little variation in this fine species, which is distinguished from all others by its very thickened angular growth, and sharply zigzag bold splashes of colouring.

Species 2. (Fig. *a*, Mus. Cuming; Fig. *b*, Mus. Steere.)

Oliva porphyria, *Oliv. testâ cylindraceo-oblongâ, ventricosâ, perumplâ, spirâ brevi, subdepressâ, apice elato, columellâ tumidâ, undique densè plicatâ, plicis paululum obscuris; violaceo-carneâ, lineis sutulatorufis undique angulato-reticulatâ, maculis grandibus obscurè bifasciatâ, columellâ basi violaceo tinctâ.*

The porphyry Olive. Shell cylindrically oblong, ventricose, very large, spire short, rather depressed, apex raised, columella swollen, densely plaited throughout, plaits a little obscure; violet-flesh colour, angularly reticulated throughout with burnt-red lines, and obscurely two-banded with large blotches of the same colour, columella tinged at the base with violet.

Voluta porphyria, Linnæus, Syst. Nat. (12th edit.) p. 1187.

Oliva porphyria, Lamarck.

Cylinder porphyreticus, D'Argenville.

Hab. Panama (in sandy mud at low water); Cuming.

This fine species, the largest of the genus, is remarkably distinct from any other. From the peculiarity of its marking it has been long known as the 'Camp Olive.' Regarding the shell in the position in which it would be if the animal were placed with its head to the left of the observer, the interstitial spaces of the net-work have the appearance of a dense encampment of various-sized tents.

3. a.

3. b.

4. a.

3. c.

4. b.

OLIVA.

PLATE II.

Species 3. (Fig. 3 *a* and 3 *c*, Mus. Steere; Fig. 3 *b*, Mus. Cole.)

OLIVA NOBILIS. *Oliv. testâ elongato-cylindraceâ, crassiusculâ, spirâ sepissimè acuminato-exsertâ, anfractibus propè ad suturas et ante medium subcontractis, plicis columellaribus viæ numerosis, anterioribus fortiusculis; pallidè lacteâ, nigricante-fusco reticulatè trifasciatâ et longitudinaliter undato-strigatâ, columellâ et aperturæ fauce carneolo-lacteis.*

THE NOBLE OLIVE. Shell elongately cylindrical, rather thick, spire most frequently acuminately exserted, whorls somewhat contracted near the sutures and before the middle, columellar plaits not very numerous, the front ones rather strong; pale cream-colour, reticulately three-banded and longitudinally wave-streaked with blackish-brown, columella and interior of the aperture carnelion cream-colour.

Hab. Mauritius.

In a genus of which the species are so nearly related, and the individuals of species so variously painted, opinions must necessarily differ greatly as to the value and limit of specific character. Although it has been my endeavour to restrict the number of species where an observation of many specimens shows them to have been founded upon varieties, I cannot bring my mind to believe that the shell under consideration, which has been referred sometimes to *O. tremulina* and sometimes to *O. erythrostoma*, belongs to either species. Not uncommon in collections, and easy of recognition, it is uniformly of larger and more solid growth than its congeners, and of a pale carnelion cream-colour, richly banded and blotched in network style with dark brown, the brown being blue-clouded as in other species. M. Duclos gives a very characteristic figure of it under *O. erythrostoma*, at Pl. 31. f. 7, and two rather indifferent figures of it under *O. tremulina*, at Pl. 11. f. 5 and 7, of his monograph.

Species 4. (Fig. *a*, Mus. Cole; Fig. *b*, Mus. Steere.)

OLIVA PONDEROSA. *Oliv. testâ oblongo-cylindraceâ, crassâ, obesâ, spirâ paruæ exsertâ, anfractu ultimo apicem versus plus minus producto, plicis columellaribus subnumerosis, partim evanidis; lacteâ, strigis undatis aut reticulatis brevibus interruptis obscurè cæruleascentibus aut violaceis, hic illic fuscis, sparsim pictâ, columellâ et aperturæ fauce carneolo-albis, apertura interdum carneo-rufescente tinctâ.*

THE PONDEROUS OLIVE. Shell oblong-cylindrical, thick, stout, spire but little exserted, last whorl more or less produced towards the apex, columellar plaits rather numerous, but partially faded; cream-white, sparingly painted with obscure bluish or violet short interrupted streaks, here and there brown and reticulated, columella and interior of the aperture carnelion-white, aperture sometimes tinged with flesh-pink.

DUCLOS, Mon. Oliv. Pl. 15. f. 8 and 9.

Hab. Mauritius.

This fine species is distinguished from the preceding and allied forms, by its solid structure and by the produced growth of the last whorl at its hind extremity, where it rises into a callosity above the suture after the manner of *O. maura*. The painting consists of scattered interrupted brown streaks, reticulated in places, obscured into a bluish violet or milky aspect, by an overcharge of the same colourless enamel as the ground.

5. a.

5. b.

5. c.

5. d.

5. e.

Sowerby del. et lith.

Frederic Reeve, imp.

OLIVA.

PLATE III.

Species 5. (Fig. *a*, *c*, and *e*, Mus. Cole; Fig. *b*, Mus. Steere, and Fig. *d*, Mus. Cuming.)

OLIVA OLYMPIADINA. *Oliv. testâ oblongo-cylindraceâ, crassâ, infra suturas subcontractâ, spirâ exsertâ, anfractu ultimo ad extremitatem posticam aperturæ calloso-producto, plicis columellaribus plus minus evanidis; albâ, purpurascente-fusco subobscurè dilutè reticulatâ, intensè fusco sæpè perampliter maculatâ, columellâ et aperturæ fauce albis.*

THE OLYMPIAN OLIVE. Shell oblong-cylindrical, thick, slightly contracted beneath the sutures, spire exerted, last whorl callously produced at the hind extremity of the aperture, columellar plaits more or less faint; white, somewhat obscurely dilutely reticulated with purplish-brown, often very largely blotched with dark brown, columella and interior of the aperture white.

DUCLOS, Mon. Oliv. pl. 12. f. 10 to 12.

Hab. Mauritius.

A magnificent series of about two hundred specimens, all of this species, collected at the Island of Mauritius by Miss Cole, has enabled me to trace the connection of its varieties with great accuracy. As represented at Fig. 5 *b* and Fig. 5 *c*, the shell is faintly mottled throughout with light milky-purplish net-work, interrupted with two broken bands of scattered brown blotches. In the variety Fig. *a* the brown increases in quantity, the faint mottling is broken up, and, except on the under surface of the shell, is almost obliterated. In the shell represented at Fig. 5 *d* the brown is richer, more largely blotched, and the interstices between the blotches present only very faint indications of the mottled net-work. The species approaches very nearly in this state to the dark variety of *O. tremulina*, Fig. 5 *e*, which in being introduced in this plate was thought to belong to it. *O. Olympiadina* is always to be distinguished in addition to the above-named characters by the pure white enamel of the interior and columella, which latter is always more callous. The ground is always pure white, and even the dark brown painting is not unfrequently over-laid by a very thin milky coating of the same.

August, 1850.

6. a.

6. b.

6. c.

6. d.

6. e.

Sowerby del. et lith. Frederic Reeve imp.

OLIVA.

PLATE IV.

Species 6. (Fig. *a*, *c*, and *d*, Mus. Steere; Fig. *b*, Mus. Cole, and Fig. *e*, Mus. Cuming.)

OLIVA TREMULINA. *Oliv. testâ subelongato-cylindraceâ, anfractibus posticè et ante medium leviter contractis, apice exserto, plicis columellaribus anterioribus fortiusculis; carneolo-albâ, nigricante-fusco interruptè trifasciatâ et dilutè longitudinaliter strigatâ, strigis cæruleo-nebulatis, valdè confusis, interdum undique intensè fuscâ, hic illic carneolo-albo interruptâ, columellâ et aperturæ fauce albidis, plerumque carneo-rufescente tinctis.*

THE TREMBLING OLIVE. Shell somewhat elongately cylindrical, whorls slightly contracted posteriorly and before the middle, apex exserted, front columellar plaits rather strong; carnelion-white, sometimes three-banded with dark brown, and painted longitudinally with blue-clouded streaks very much confused, sometimes dark brown throughout, interrupted here and there with carnelion-white, columella and interior of the aperture whitish, generally tinged with flesh-red.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 607. *Hab.* Mauritius and Philippine Islands.

This well-known species has mostly a carnelion-rouge tinge, but not a positive red interior as in *O. erythrostoma*. The specimens figured at 6 *c*, *d*, *e*, represent the ordinary state of it, densely clouded throughout with blue-shaded streaks and obscurely three-banded with dark-brown blotches. In Fig. *a*, *b*, the shell is entirely brown except in a few scattered patches, in which state it passes into the variety represented in the preceding plate at Fig. 5 *c*. This last variety, of which M. Duclos represents a characteristic specimen at Pl. 11. f. 8 of his monograph, is generally of larger size and of more solid growth, presenting almost sufficient character to be regarded as a distinct species.

7.b.

7.a.

7.c.

7.d.

7.e.

7.f.

7.g.

Bowerbank del. et lith.

Frederick Reeve imp.

OLIVA.

PLATE V.

Species 7. (Fig. *a*, *e*, *f*, *g*, Mus. Cuming; Fig. *b*, *c*, *d*, Mus. Steere.)

OLIVA ERYTHROSTOMA. *Olivæ testâ oblongo-cylindraceâ, crassiusculâ, spirâ exsertâ, anfractibus posticè sæpè tumidis, ad suturas contractis, plicis anticis columellaribus fortiusculis; carneolo-albâ, cæruleo-viridi, vel olivaceo, vel purpureo nebulato-strigatâ et trifasciatim maculatâ, nonnunquam intensè fusco maculatâ vel omnino fuscâ, columellâ labroque carneolo-albis, aperturæ fauce vividè rufâ.*

THE RED-MOUTH OLIVE. Shell oblong-cylindrical, rather thick, spire exserted, whorls often swollen posteriorly, contracted at the sutures, front columellar plaits rather strong; carnelion-white, cloud-streaked and three-banded with blue-green, or olive, or purple, sometimes blotched with dark brown or altogether brown, lip and columella carnelion-white, interior of the aperture deep red.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 606.

Hab. Fig. *a*, *g*, Ceylon. Fig. *e*, *f*, Island of Mindanao, Philippines (sandy mud, in deep water); Cuming.

This fine species is distinguished from *O. tremulina*, its nearest ally, first, in the aperture being stained with deep red, secondly, in being mostly rather swollen posteriorly beyond the middle, and, thirdly, in exhibiting a greater variety of colouring in the painting. At Fig. *a*, *g*, the painting is simply purple-lake upon a white ground. At *Fig. b* the ground is carnelion, and the painting is of purple-lake shaded with a rich golden yellow. Fig. *c* represents a very richly painted dark olive-brown, blue-shaded upon a carnelion ground. At Fig. *d* the streaks are of a milky blue-green shaded with the same golden yellow as in the purple variety *b*. Fig. *e* is a variety very richly painted with dark in miscellaneous angular blotches, neither streaked, nor disposed in bands; and Fig. *f* is almost an uninterrupted brown, obscurely banded. These figures illustrate only a few of the most striking varieties of this beautiful species, which might be considerably added to if space permitted.

August, 1850.

8.a.

8.b.

8.c.

9.a.

9.b.

8.d.

9.c.

Sowerby del. et lith.

Frederic Reeve, Imp.

OLIVA.

PLATE VI.

Species 8. (Fig. *a*, *b*, *d*, Mus. Steere; Fig. *c*, Mus. Cuming.)

OLIVA IRISANS. *Oliv. testâ elongato-cylindraceâ, subangustâ, spirâ unâc acuminato-exsertâ, unâc brevi, plus minus callosâ, plicis columellaribus interdum subevanidis; albâ vel carneolo-albâ, strigis linearibus purpureo-olivaceis, viridi lutcoque nebulatis, acutè undatis, plus minus bifasciatim reticulatis, nitidè pictâ, nonnunquam luteo-fusco aut nigricante omnino indutâ, anfractuum margine spirali fusco punctato, columellâ pallidè carneâ, aperturæ fauce carnlescente-albâ.*

THE IRIDESCENT OLIVE. Shell elongately cylindrical, rather narrow, spire sometimes acuminately exserted, sometimes short and more or less callous, columellar plaits not unfrequently rather faint; white or carnelion-white, neatly painted with purple-olive linear streaks, clouded with green and yellow, sharply waved, and more or less reticulately two-banded, sometimes altogether covered with yellow-brown or blackish, spiral edge of the whorls brown-dotted, columella pale carnelion, interior of the aperture bluish-white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 610. *Hab.* Mauritius.

This appears to be a very well defined species, allied to *O. irenaline*, but uniformly of smaller size and narrower. The spire, mostly exserted, is sometimes short, buried nearly to the apex, as in Fig. *a*, by a callous deposit of enamel. The painting is distributed in a scattered interrupted zigzag style, rarely or never blotched, though mostly aggregated in bands about the middle and posterior portion of the shell. In Fig. *b* and *c* the streaks are dark olive, clouded, iris-like, with blue-green and yellow upon a warm carnelion ground. In Fig. *a* the shell is pure white, and the painting simple blue-purple. In Fig. *d* the pattern is entirely overlaid with a uniform yellow-brown coat, which in some specimens is nearer black.

Species 9. (Fig. *a*, *c*, Mus. Steere; Fig. *b*, Mus. Cuming.)

OLIVA TEXTILINA. *Oliv. testâ oblongo-cylindraceâ, latiusculâ, crassâ, spirâ breviusculâ, anfractu ultimo in callositate ad extremitatem posticam aperturæ producto, plicis columellaribus fortiusculis; carneolo-albâ, punctis lineisque punctorum nigris, angulato-reticulatis, interdum subpromiscuis, cinereo-nebulatis, plus minus saturatè bifasciatis, undique pictâ, columellâ et aperturæ fauce vividè carneolis.*

THE FINE-TEXTILE OLIVE. Shell oblong-cylindrical, rather broad, thick, spire rather short, last whorl produced into a callosity at the posterior end of the aperture, columellar plaits rather strong; carnelion-white, painted throughout with black dots and lines of dots, angularly reticulated, sometimes rather promiscuous, ash-clouded, more or less darkly aggregated into two bands, columella and interior of the aperture bright carnelion.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 606. *Hab.* Islands of Ticao and Mindanao, Philippines (sandy mud in deep water); Cuming.

There is perhaps less variety in this species than in any other of the genus, the pattern consisting always of an angular ash-clouded net-work of dark dots, sometimes very regular and close-set, but more frequently promiscuous and confused in its arrangement. The shell is generally of large size, thick, and rather broad, the last whorl rising upon the spire into a callosity.

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10. b.

10. a.

10. c.

10. d.

10. e.

10. g.

10. f.

Sowerby. del et lith.

Frederic Reeve imp.

OLIVA.

PLATE VII.

Species 10. (Fig. 41 *a*, *b*, *c*, *d*, *f*, *g*, Mus. Steere; Fig. *e*, Mus. Cuming.)

OLIVA MAURA. *Olivæ, testâ oblongo-ovatâ, crassâ, posticè tumidiusculâ, juxta suturas contractâ, spirâ subdepressâ, anfractu ultimo ad extremitatem posticam aperturæ in callositate erectâ producto, plicis columellaribus subplanulatis, labro subplicato; cinereo-carneolâ vel intensè olivaceâ, vel nigrâ, immaculatâ aut fusco angulato-strigatâ aut fulguratâ, strigis interruptis, brevibus, interdum saturatè bifasciatis, columellâ albâ, basi pallidè sanguineo tinctâ, aperturæ fusco cæruleoque-albâ.*

THE MOOR OLIVE. Shell oblong-ovate, thick, rather swollen posteriorly, contracted next the sutures, spire rather depressed, last whorl produced at the posterior end of the aperture into an erect callosity, columellar plaits somewhat flattened, lip subplicate; ash-carnelion, or dark olive or black, sometimes unspotted, sometimes mottled with brown angular streaks, or lightning-marked, the streaks being interrupted, short, sometimes amalgamated darker with two bands, columella white, faintly tinged at the base with blood-red, interior of the aperture bluish-white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 608.

Varietates.

Oliva fuluiana, sepulturalis, and *funebralis*, Lamarck.

Oliva lencostoma and *Macleayæ*, Duclos.

Hab. Ceylon, Mauritius, Philippines.

This species is extremely variable in its style of painting except in one important point, the base of the columella, which is, with rare exception, tinged with a blush of red. In other respects it varies chiefly as represented in the accompanying plate. Fig. *e* and *f* may be regarded as Lamarck's type of the species, dark black or olive, uniform and unspotted, while the zigzag lightning-marked pattern at Fig. *b* is his *O. fuluiana*. The shell Fig. *a*, with black splashed bands and waved streaks, upon a mottled-olive ground, represents Lamarck's *O. funebralis* and Duclos' *O. lencostoma*; those at Fig. *c* and *g* with two obscure bands upon a mottled-olive ground, often lighter than here represented, the *O. Macleayæ* of Duclos; and the rich dark-olive variety with scattered indications of bands and waved streaks constitutes Lamarck's *O. sepulturalis*.

The *Oliva Maura* is mainly distinguished by its constancy of form, having always the same tumid growth towards the spire, which is rather depressed, and the same produced callous production of the last whorl at the posterior end of the aperture.

August, 1850.

11. b.

11. a.

11. c.

12. a.

13. a.

12. b.

13. b.

Sowerby del et lith.

Frederic Reeve imp.

OLIVA.

PLATE VIII.

Species 11. (Fig. *a*, Mus. Steere; Fig. *b*, *c*, Mus. Cuming.)

OLIVA FUSIFORMIS. *Oliv. testâ fusiformi-ovatâ, crassissimâ, posticè lævidâ, spirâ subampla, exsertâ, plicis columellaribus posticis subcrenatis; albâ, rufescente-spadiceo undique longitudinaliter fulguratâ, interdum bifasciatâ, columellâ et aperturæ fauce eburneis.*

THE FUSIFORM OLIVE. Shell fusiformly ovate, very thick, swollen posteriorly, spire rather large, exserted, posterior columellar plaits rather faint; white, longitudinally zigzag-streaked with reddish-fawn, sometimes two-banded, columella and interior of the aperture ivory-white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 618. *Hab.* West Indies.

A very distinct species of stout solid growth, belonging to the same type as *O. reticularis* and *Julieta*, in which the pattern is gathered along the spiral edge of the whorls into points of a darker colour.

Species 12. (Fig. *a*, Mus. Steere; Fig. *b*, Mus. Cuming.)

OLIVA GIBBOSA. *Oliv. testâ fusiformi-ovatâ, obesâ, crassissimâ, valdè callosâ, spirâ acuminatâ, columellâ valdè callosâ, plicis ferè occultis; corruleâ aut fuscicante, nebulosâ aut strigatâ, fasciâ luteâ conspicuâ, nigricante-fusco undulatâ ad basin, spirâ et columellâ luteo-albidis, aperturæ fauce cærulescente-albâ.*

THE GIBBOUS OLIVE. Shell fusiformly-ovate, stout, very thick, very callous, spire acuminated, columella very callous, plaits almost buried; blue or pale yellow, mottled or streaked, with a conspicuous black-spotted yellow band at the base, spire and columella yellowish-white, interior of the aperture bluish-white.

Voluta gibbosa, Born, Mus. Vind. p. 215.
Oliva cingulata, Chemnitz.
Voluta utriculus para, Gmelin.
Oliva utriculus, Chemnitz.

An eadem var.? *Oliva nebulosa*, Lamarck.
Hab. Africa.

This and the following species are both remarkable for the callous deposit of enamel on the columella, which extends to and almost covers the spire.

Species 13. (Fig. *a*, *b*, Mus. Steere.)

OLIVA BRASILIENSIS. *Oliv. testâ subtrigono-ovatâ, crassissimâ, solidâ, spirâ plano-depressâ, apice subacutâ, columellâ valdè callosâ, plicis ferè occultis; fulvo-spadiceâ, albo strigatâ, lineis fuscescentibus capillaribus interruptis sub lente transversim notatâ, zonâ latâ saturatiore ad basin.*

THE BRAZILIAN OLIVE. Shell somewhat triangularly ovate, rather thick, solid, spire flatly depressed, rather sharp at the apex, columella very callous, the plaits almost buried; fulvous-fawn, streaked with white, transversely marked, beneath the lens, with brown interrupted hair lines, and with a broad darker zone at the base.

CHEMNITZ, Conch. Cab. vol. x. pl. 147. f. 1367, 1368.
Voluta pinguis, Dillwyn.
Hab. Brazil.

A shell of very solid growth, remarkably characterized by its depressed callous spire.

14. b.

14. a.

14. c

14. d.

14. e.

15. a.

15. b.

Lowenthy del. et lith.

Frederic Reeve imp.

OLIVA.

PLATE IX.

Species 14. (Fig. *a*, *b*, *c*, *e*, Mus. Cuming; Fig. *d*, Mus. Steere.)

OLIVA PERUVIANA. *Oliv. testâ ovatâ, crassâ, gibbosâ, posticè tumidâ, interdum annulatâ, spirâ brevissimâ, columellâ basin versus plicatâ, supràlævigatâ; purpurascente vel purpurascente-albâ, purpureo-castaneo longitudinaliter fulguratâ aut strigato-punctatâ, interdum immaculatâ, interdum omnino purpureo-castaneâ, columellâ albâ, aperturæ fauce purpurascente tinctâ.*

THE PERUVIAN OLIVE. Shell ovate, thick, gibbous, swollen posteriorly, sometimes annulated, spire rather short, columella plaited towards the base, smooth above; light purple or purplish white, longitudinally zigzag-marked or streak-dotted with purple-chestnut, sometimes unspotted, sometimes entirely purple-chestnut, columella white, interior of the aperture tinged with purple.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 617. Eadem var. *Oliva Senegalensis*, Lamarck.

Hab. Coquimbo, Copiapo, and Bay of Callao, Peru (in sandy mud, at depths varying from four to seven fathoms); Cuming.

The specimens selected for the illustration of this species are partienlarly characteristic of its varieties of painting, in which only two colours are employed. At Fig. *a* the shell is purplish-white, unspotted, whilst that at Fig. *c* is of a uniform dark purple-chestnut. At Fig. *b* the chestnut appears in bold distant zigzag stripes upon a light purple ground, which state of the species was named *O. Senegalensis* by Lamarck, from some erroneous information of its locality. Fig. *d* represents a variety with more of the chestnut colouring, broken up as it were into dots and short interrupted streaks; whilst in the shell represented at Fig. *e* the chestnut appears in very promiscuous and still smaller dots, overcharged with a general tinge of the same colour.

The form of this species varies in being sometimes very tumid, and produced into a ring towards the spire as indicated at Fig. *e*.

Species 15. (Fig. *a*, Mus. Steere; Fig. *b*, Mus. Cuming.)

OLIVA JULIETA. *Oliv. testâ ovatâ, crassiusculâ, medio tumidâ, deindè spiram versus attenuatâ, columellâ multiplicatâ, basi calloso-gibbosâ; latescente-albâ, punctis grandibus nigricante-fuscis, cæruleo-nebulatis, interruptè, angulatè dispositis, undique vividè pictâ, fusco in maculis acuminatis juxta suturas, apice pallidè violaceo, basi maculâ violaceâ obscurè tinctâ, columellâ et aperturæ fauce latescente-albis.*

JULIET'S OLIVE. Shell ovate, rather thick, swollen in the middle, then attenuated towards the spire, columella many-plaited, callously gibbous at the base; yellowish-white, brightly painted throughout with large blue-clouded black-brown dots, arranged in confused or broken angles, the brown rising in acuminated blotches next the sutures, apex pale violet, base obscurely marked with a faint violet blotch, columella and interior of the aperture yellowish-white.

DUCLOS, Mon. Oliv. pl. 16. f. 3 and 4.

Hab. Real Llejos, Central America (in sandy mud, at the depth of six fathoms); Cuming.

This beautiful species bears the same relation to *O. reticularis*, through the variety named *O. reticulata* by Duclos, represented at Fig. 16 *b* in the next plate, as *O. nobilis* has with *O. tremulina*. Regarded separately, the allied forms in both instances appear specifically distinct from each other, but it is impossible to deny that there is only one prevailing idea of form and pattern in each. The typical pattern of *O. reticularis* is a net-work composed of brown dots, gathered into lines or acuminated blotches at the sutures. The dots become larger, more confused or broken up, and more conspicuous, as in the variety *O. reticulata*, Duclos; and the character of this passes by an easy transition into *O. Julieta*, distinguished by the same hieroglyphical marking at the base, and an indication of the violet blotch which is very characteristic throughout the series.

16. b.

16. a.

16. c.

16. d.

16. e.

16. g.

16. f.

Sowerby lal. et lith. Prideaux Reeve, imp.

OLIVA.

PLATE X.

Species 16. (Fig. *a*, *b*, *c*, *e*, *g*, *i*, Mus. Cuming; Fig. *d*, *f*, *h*, Mus. Steere.)

OLIVA RETICULARIS. *Olivæ testâ ovatâ, vel oblongâ, vel elongato-cylindraceâ, interdum posticè tumidâ, apice exsertiusculâ, plicis columellaribus numerosis, pluribusve sæpè evanidis; albidâ aut cinerascente, fusco aut nigricante-fusco profusè acutè punctato-reticulatâ, reticulâ ad suturas lineatâ aut acuminatâ, columellâ ad basin plerumque plus minus violaceo-fusco tinctâ, aperturæ fauce albidâ.*

THE RETICULATED OLIVE. Shell ovate, or oblong, or elongately cylindrical, sometimes swollen posteriorly, apex rather exserted, columellar plaits numerous, many of them frequently obscured; whitish or pale-ash, painted with a brown or black dotted net-work, which is gathered at the sutures into lines or acuminated blotches, columella mostly stained more or less with violet-brown, interior of the aperture whitish.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 613. Varietates.

Oliva araneosa, Lamarck.

Oliva Timoria, *venulata*, *obesina*, and *pindarina*, Duclos.

Hab. Gulf of California; Donnet. Island of Granada, West Indies; J. Cuming.

The specimens represented in the accompanying plate are selected with the view of illustrating the different phases of this extremely variable species, that have been distinguished by other specific names. Fig. *a* is Lamarck's type *O. reticularis*, narrow in its proportions, and mostly of smaller size, with the net-work more spaced, after the manner of *O. flammulata*, and the sutural lines of pattern more prolonged. Fig. *b* represents Duclos' *O. venulata*, in which the net-work is broken up into large blotches, and the basal violet-brown blotch rather prominent. Fig. *c* is the *O. obesina* of the same author, stouter and more gibbous in form, with the net-work somewhat similar but more or less obscured by an overcharge of milky-white enamel. Fig. *d*, the finest state of the species, of which a dark chestnut-coated variety is represented below at Fig. *g*, is Lamarck's *O. araneosa*, and has the net-work small, crowded, and confused. Fig. *e*, a remarkable form, in which the posterior portion of the shell is very stout and swollen, and the pattern small, confused, and partially banded, is Duclos' *O. Timoria*, though certainly not an inhabitant of Timor. Lastly, the oblong contracted variety, Fig. *f*, is the *O. pindarina* of the same author.

Besides the above-mentioned named varieties, are two very characteristic states of the species, Fig. *h*, *i*, in Pl. XI. In the former the net-work is peculiarly waved, and in parts is over-coated with streaks of bright chestnut; in the latter the shell is of a peculiar oblong-cylindrical form, and the net-work is small, confused, and aggregated in bands. This variety is not far removed from *O. splendidula*.

17. a.

16. b.

17. b.

18.

18. a.

19. b.

16. c.

Sowerby del. et lith.

Frederic Reeve imp.

OLIVA.

PLATE XI.

Species 17. (Fig. *a*, *b*, Mus. Cuming.)

OLIVA SPLENDIDULA. *Oliv. testâ cylindraceo-oblongâ, spirâ brevissimâ, apice elato, plicis columellaribus subdistantibus; cinereo-albicante, fasciis duabus, alterâ supra medium, alterâ basali, maculis trigonis fuscis reticulatis, cingulatâ, fasciarum interstitiis fusco-nigro sparsim punctatis et maculatis, apice basique purpureo-violaceis, aperturæ fauce lutescente-albâ.*

THE SPLENDID OLIVE. Shell cylindrically oblong, spire rather short, apex raised, columellar plaits rather distant; ash-white, encircled with two bands, composed of triangular reticulated brown spots, one above the middle, the other basal, interstices between the bands sprinkled with black-brown spots and blotches, base and apex purple-violet, interior of the aperture yellowish-white.

SOWERBY, Taskerville Catalogue, App. p. 32.

Hab. Island of Tobago, Bay of Panama (in sandy mud at low water); Cuming.

This fine species belongs to the same type as the preceding, *O. reticulata*. It is distinguished by a peculiarity of marking, which is constant in all specimens, consisting of two broad confused brown bands, of which the interstices are sprinkled with curved linear dots and triangular blotches. The spire is short and rounded, with the apex raised, which, together with the base of the columella, is tinged with purple-violet.

Species 18. (Mus. Cuming.)

OLIVA LITERATA. *Oliv. testâ elongatâ, spirâ exsertâ, plicis columellaribus interdum subocculis; pallidè spadicè, lutescente partim tinctâ, reticulâ fuscâ subimplâ, acutè trigonâ, bifasciatim dispositâ, hic illic charactere-ribus castaneis inscriptâ, ornatâ, columellâ albâ, aperturæ fauce vividè violaceâ.*

THE LETTERED OLIVE. Shell elongated, spire exserted, columellar plaits sometimes rather concealed; light fawn-colour, partially tinged with yellow, ornamented with a rather large brown net-work, sharply triangular, disposed so as to show two bands, marked here and there with chestnut characters, columella white, interior of the aperture deep violet.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 614.

Hab. West Indies.

Belonging also to the type of *O. reticulata*, to which species it more closely approximates than *O. splendidula*. In form it is peculiarly elongated, the net-work is of rather a large flame-pattern, showing two bands, which are marked here and there with dark characters. The aperture is characterized by a deep tinge of violet.

Species 19. (Mus. Cuming.)

OLIVA CUMINGII. *Oliv. testâ cylindraceo-oblongâ, posticè tumidâ, rotundatâ, spirâ brevi, apice subexserto, acuto, plicis columellaribus planulatis, subocculiis, columellâ basi tumidâ; aurantio-croceâ, castaneo et nigricante-fusco, immaculato, variè fasciatâ, columellâ basi livido-purpurascente pallidè tinctâ, aperturæ fauce cæruleo-cente-albâ.*

CUMING'S OLIVE. Shell cylindrically oblong, swollen posteriorly, rounded, spire short, apex rather exserted, sharp, columellar plaits flattened, almost concealed, columella swollen at the base; orange-saffron colour, variously banded with unspotted chestnut and blackish-brown, base of the columella faintly tinged with livid-purple, interior of the aperture bluish-white.

Hab. Gulf of California; Donnet.

This appears to be very distinct from any species yet described, and is remarkable for the absence of any pattern of marking in the painting, which is of a warm orange-saffron hue, simply cross-banded.

---

20. b.

20. a.

20. c.

21. a.

22. a.

22. b.

21. b.

Sowerby del. et lith.

Frederic Reeve imp.

OLIVA.

PLATE XII.

Species 20. (Fig. *a*, *b*, *c*, Mus. Steere.)

OLIVA ELEGANS. *Olivæ. testâ cylindraceo-ovatâ, medio tumidiusculâ, spirâ brevi, anfractu ultimo ad extremitatem posticam aperturæ in callositate erectâ producto; virescente aut lutescente-albâ, strigis olivaceo-viridibus, cæruleo et croceo-rufo nebulatis, interdum fusco-nigro acutè promiscuè undatâ, columellâ basi pallidè sanguineo tinctâ, aperturæ fauce cærulescente-albâ.*

THE ELEGANT OLIVE. Shell cylindrically ovate, rather swollen in the middle, spire short, last whorl produced into an erect callosity at the posterior end of the aperture; greenish or yellowish-white, sharply promiscuously waved with olive-green or brown-black streaks, clouded with blue and saffron-red, columella faintly tinged at the base with a blush of blood-red, interior of the aperture bluish-white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 611. *Hab.* Feejee Islands.

This species is chiefly distinguished from those which accompany it in the plate, by its shorter and more tumid growth, and the erect callous production of the last whorl upon the spire, which is proportionably depressed. The specimen represented at Fig. *a* is promiscuously waved with dark green broken streaks, clouded with blue and saffron-red; that at Fig. *b*, *c* presents the same colouring overlaid with a profusion of rich black-brown zigzag streaks.

Species 21. (Fig. *a*, *b*, Mus. Steere.)

OLIVA TIGRINA. *Olivæ. testâ cylindraceo-ovatâ, medio tumidâ, subinflatâ, spirâ brevi, anfractu ultimo ad extremitatem posticam aperturæ calloso-producto, plicis columellaribus plus minus occultis; cinerascente-albâ, maculis parcis cærulescente-griseis profusè marmoratâ, interdum nigro-fusco omnino indutâ, columellâ basi pallidè sanguineo tinctâ, aperturæ fauce cærulescente-albâ.*

THE TIGER-SPOTTED OLIVE. Shell cylindrically-ovate, swollen in the middle, rather inflated, spire short, last whorl callously produced at the posterior end of the aperture, columellar plaits more or less faint; ashy white, profusely mottled with small blue-grey spots, sometimes covered entirely with black-brown, columella faintly tinged at the base with a blush of blood-red, interior of the aperture bluish-white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 623.

Hab. Madagascar.

Distinguished mainly by its swollen growth, being uniformly of larger size than the preceding species, and by its livid grey aspect of colour, except when altogether black-brown, as it not unfrequently is.

Species 22. (Fig. *a*, *b*, Mus. Steere.)

OLIVA TRICOLOR. *Olivæ. testâ cylindraceo-oblongâ, interdum subangustâ, spirâ breviusculâ, peculiariter callosâ, plicis columellaribus basin versus fortiusculis; albidâ aut virescente, cæruleo et croceo-rufo profusè nebulatâ, viridi marmoratâ et fasciatâ, spirâ nigro obliquè tesselatâ.*

THE TRI-COLOURED OLIVE. Shell cylindrically oblong, sometimes rather narrow, spire rather short, peculiarly callous, columellar plaits rather strong towards the base; whitish or greenish, profusely clouded with blue and saffron-red, marbled and banded with green, spire obliquely tessellated with black, base of the columella tinged with a blush of blood-red, interior of the aperture white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 615.

Varietas. *O. Philantha*, Duclos.

Hab. Mauritius.

The colouring of this species consists of a profuse mottling of clouded blue and saffron-yellow spots, with, in most specimens, a large proportion of green, showing two bands, one round the middle of the shell, and one beneath the sutures; but the most characteristic feature of the species consists in the spire being obliquely tesselated with black, and a slight mixture of saffron-red.

23.

24. a.

24. b.

24. c.

25. a.

25. b.

24. d.

26. a.

26. b.

26. c.

Sowerby del. et lith.

Frederic Reeve, imp.

OLIVA.

PLATE XIII.

Species 23. (Mus. Steere.)

OLIVA MUSTELINA. *Oliv. testâ cylindraceo-oblongâ, spirâ plano-depressâ, apice acutâ, anfractu ultimo posticè subproducto, plicis columellaribus numerosis; interstitiis strigis angustis flexuosis numerosis promiscuè pictâ, columellâ albicante, aperturæ fauce violaceâ.*

THE WEASEL-LIKE OLIVE. Shell cylindrically oblong, spire flatly depressed, sharp at the apex, last whorl somewhat produced posteriorly, columellar plaits numerous; yellowish, promiscuously painted with numerous flexuous narrow streaks, columella whitish, interior of the aperture violet.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 616.

Hab. Singapore (in fine sand at a depth of about seven fathoms); Cuming.

There is little variation in this species, which is well characterized by its straight cylindrical form, depressed spire, flexuous line painting, and violet interior.

Species 24. (Fig. *a*, *b*, *c*, Mus. Steere; Fig. *d*, Mus. Cuming.)

OLIVA EPISCOPALIS. *Oliv. testâ subelongato-oblongâ, crassissimâ, spirâ exsertâ, apice acutâ, plicis columellaribus fortibus; albâ, punctis aut lineis brevibus interruptis carneo et croceo-rufo nebulatis promiscuè pictâ, interdùm livido-olivaceo saturatè variegatâ, aperturæ fauce intensè violaceâ.*

THE EPISCOPAL OLIVE. Shell rather elongately oblong, very thick, spire exserted, sharp at the apex, columellar plaits strong; white, promiscuously painted with blue and saffron-red clouded dots and short interrupted lines, sometimes darkly variegated with livid-olive, interior of the aperture very deep violet.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 611.

Varietas. *O. longbris*, Duclos.

Hab. North Australia; Jukes.

A species of very solid growth, prominently distinguished by the very deep violet colouring of the interior. The specimens Fig. *c*, *d* represent the typical state of the species. Fig. *a*, *b* represents a dwarf variety (*O. longbris*, Duclos), in which there is an unusually copious supply of the dark livid-olive painting.

Species 25. (Fig. *a*, *b*, Mus. Steere.)

OLIVA SANGUINOLENTA. *Oliv. testâ cylindraceo-oblongâ, basi subobtecviatâ, spirâ brevi, depressâ, anfractu ultimo ad extremitatem posticam aperturæ callouo, plicis columellaribus subplanulatis; albidâ, lineis olivaceis undatis, nunc sinuatis numerosissimis confertis, nunc grandibus plus minus distantibus, ornatâ, columellâ et callositate posticâ sanguineo-rufescentibus, aperturæ fauce cærulescente-albâ.*

THE BLOODY OLIVE. Shell cylindrically oblong, somewhat shortened at the base, spire short, depressed, last whorl callous at the posterior end of the aperture, columellar plaits rather flattened; whitish, ornamented with waved olive lines, which are sometimes minute, very numerous and close-set, sometimes large and more or less distant, columella and posterior callosity blood-red, interior of the aperture bluish-white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 615.

Hab. Island of Negros, Philippines (in sandy mud at low water); Cuming.

Several species of the genus are characterized by a tinge of red at the base of the columella, but in this the whole of the columella is of a uniform blood-red, and this colour not unfrequently appears in the callosity of the spire and along the outer lip.

Species 26. (Fig. *a*, *b*, Mus. Cuming; Fig. *c*, Mus. Steere.)

OLIVA BULBIFORMIS. *Oliv. testâ abbreviato-ovatâ, tumidâ, crassiusculâ, spirâ brevi, parvâ, plicis columellaribus plus minus callosis; griseo-lutescente, olivaceo variè maculatâ et reticulatâ, plerumque bifasciatâ, columellâ basi interdum pallidissimè sanguineo tinctâ, aperturæ fauce cærulescente-albâ, interdum livido-violascente.*

THE BULB-SHAPED OLIVE. Shell abbreviately ovate, swollen, rather thick, spire short, small, columellar plaits more or less callous; greyish-yellow, variously spotted and reticulated with olive, generally two-banded, columella sometimes very faintly tinged with red, interior of the aperture bluish-white, sometimes livid violet.

DUCLOS, Mon. Oliv. pl. 27. f. 10 to 13.

An varietates? *O. dactyliola* and *Carolinizna*, Duclos.

Hab. Moluccas.

This species may be readily distinguished by its swollen bulbous form, varying more or less in convexity.

28. a.

27.

28. b.

29. a.

29. b.

29. c.

30. a.

30. b.

30. d.

30. c.

Sowerby del et lith.

Frederic Reeve, imp.

OLIVA.

PLATE XIV.

Species 27. (Mus. Steere.)

OLIVA SCRIPTA. *Oliv. testâ cylindraceo-oblongâ, posticè latiusculâ, spirâ acuminatâ auleu depressâ, plicis columellaribus paucis, numerosis; lutescente, fuscescente undique pallidè reticulatâ, characteribus fuscis acutè undatis bifasciatim sparsim notatâ, columellâ et apertura fauce cæruleascente-albis.*

THE INSCRIBED OLIVE. Shell cylindrically oblong, rather broad posteriorly, spire acuminate but depressed, columellar plaits small, numerous; yellowish, faintly reticulated throughout with pale brown, sparingly marked with brown waved characters in two bands, columella and interior of the aperture bluish-white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 615. *Hab.* —— ?

Very closely resembling *O. literata* in its style of painting, but uniformly of smaller size, and less elongately acuminated. The shell is broader beneath the sutures, the spire being a little depressed, and has more the form of *O. mustelina*.

Species 28. (Fig. *a*, Mus. Steere; Fig. *b*, Mus. Pickering.)

OLIVA HARPULARIA. *Oliv. testâ oblongo-ovatâ, posticè tumidiusculâ, spirâ exsertâ, plicis columellaribus ferè sexcultis; albâ, lineis fuscis plurimis flexuosis longitudinaliter pictâ, columellâ et apertura fauce albis.*

THE HARP-STRUNG OLIVE. Shell oblong-ovate, posteriorly rather swollen, spire exserted, columellar plaits almost concealed; white, painted longitudinally with numerous brown flexuous lines, columella and interior of the aperture white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 620. *Hab.* —— ?

I have felt some hesitation in publishing this species, because the shells, of which only three are known in this country (the third in the British Museum), have very much the appearance of being uncoated and polished. It was, however, described by Lamarck, and figured some years before by Chemnitz in a plate of miscellaneous un-named Olives which he termed remarkable varieties, "*varietates notabiles Olivæ*." It belongs to the *O. reticulata* type, and is characterized by numerous long flexuous markings which may or may not be the outer natural coating of the species.

Species 29. (Fig. *a*, Mus. Steere; Fig. *b*, *c*, Mus. Cuming.)

OLIVA POLPASTA. *Oliv. testâ ovatâ, crassâ, ponderosâ, posticè obesâ, tumidâ, spirâ brevisculâ, apice obtusâ, plicis columellaribus numerosis, brevibus, anticis interdum subplanatis; cinereo-olivaceâ, maculis hieroglyphicis punctisque nigris obliquè notatâ, maculis luteocentibus ad suturas reticulatis, columellâ et apertura fauce cæruleascente-albis.*

THE TUMID OLIVE. Shell ovate, thick, ponderous, stout and swollen posteriorly, spire rather short, obtuse at the apex, columellar plaits numerous, short, anterior plaits sometimes rather flattened; ash-olive, obliquely marked with hieroglyphic spots and dots, with yellowish reticulated spots next the sutures, columella and interior of the aperture bluish-white.

DUCLOS, Mon. Oliv. pl. 16. *f*. 1.

Hab. Bay of Montija, Veragua, Central America (in sandy mud at a depth of about thirteen fathoms); Cuming.

It is not difficult to connect this Olive, as well as *O. Julieta*, with *O. reticulata*, in both of which forms the network of the typical species is broken up into a confusion of dots and dashes.

Species 30. (Fig. *a*, Mus. Cuming; Fig. *b*, *c*, *d*, Mus. Steere.)

OLIVA CRUENTA. *Oliv. testâ oblongo-cylindraceâ, spirâ plerumque acuminatâ, interdum supra medium anfractâ, apice acutâ, plicis columellaribus numerosis, subirregularibus, duplicatis; fuscescente-lacteâ aut rubescente, guttis obscurè violaceo-purpureis undique notatâ, guttis ad suturas et ad basin intensè violaceo-purpureis, interdum purpurascente-carneo marmoratâ aut reticulatâ, apertura fauce sæpissimè aurantiâ.*

THE SPOTTED OLIVE. Shell oblong-cylindrical, spire generally acuminated, sometimes annulated above the middle, sharp at the apex, columellar plaits numerous, somewhat irregular, duplicate, pale brownish cream-colour or ruddy, marked throughout with obscure violet-purple spots, which are deep violet-purple

round the base and at the sutures, sometimes mottled or reticulated with purple-flesh colour.

Voluta cruenta, Dillwyn, Catalogue of Shells, vol. i. p. 514.
Oliva guttata and *leucophæa*, Lamarck.
Oliva maculata and *mantichora*, Duclos.
Eadem var. *Voluta annulata*, Gmelin.

Hab. Zanzibar, East Africa; Thoru. Australia; Jukes. Island of Siquijor, Philippines (on sand-banks at low water); Cuming. Society Islands (in coral sand at low water); Cuming.

This is a species of a very distinct character, and stands alone in the genus. The typical variety, Fig. 30 *a*, is of a brownish cream-colour, covered with violet-purple spots, which are obscured by an overcoating of cream-colour, except round the base and along the edge of the whorls next the sutures. Fig. 30 *b*, *c*, represent a state of the species (*O. mantichora*, Duclos) in which the shell is mottled with a delicate flesh-purple net-work, and the spots are smaller, patched with white and scattered more irregularly. In the variety at Fig. 30 *d* (*O. leucophæa*, Lamarck) the spots have the character of scattered triangular blotches, and the ground is frequently of a ruddy tinge. Sometimes the shell is characterized by a more or less obsolete ring, which variety Gmelin named *V. annulata*.

The *O. cruenta* has a remarkably wide range. At the Society Islands it occurs in the fine state represented at Fig. *a*. At Zanzibar the shell is nearly colourless, the spots being only faintly indicated and fewer in number. The specimens from the Philippines are of a warm hue, but nearly colourless; while those from Australia are small and characterized by the confused style of painting represented at Fig. *b*, *c*.

31. a.

31. b.

31. c.

31. d.

31. e.

31. f.

31. g.

Sowerby del et lith.

Frederic Reeve imp.

OLIVA.

PLATE XV.

Species 31. (Fig. *a, b, c, d, e, f*, Mus. Steere; Fig. *g*, Mus. Cuming.)

OLIVA INFLATA. *Oliv. testâ ovatâ, inflatâ, medio gibbosâ, crassissimâ, spirâ depresso-planâ, apice elato, acuto, anfractu ultimo ad extremitatem posticam aperturæ calloso-producto, columellâ tuberculis duobus callosis armatâ, plicis subobsoletis; cinerascente-albâ, grisco punctatâ, nigro-fusco fulguratâ, aut maculatâ, aut fasciatâ, interdum cæruleo-olivaceo et aurantio nebulatâ, vel omnino nigro-fuscâ, vel eburneâ, tuberculis interdum livido-fusco tinctis.*

THE INFLATED OLIVE. Shell ovate, inflated, gibbous in the middle, very thick, spire depressly flattened, apex raised, sharp, last whorl callously produced at the posterior end of the aperture, columella armed with two callous tubercles, plaits rather faint; ash-white, dotted with grey, lightning-marked or blotched or banded with black-brown, sometimes clouded with blue-olive and orange, or altogether black-brown or ivory-white, tubercles sometimes tinged with livid-brown.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 619.

Varietates. *Oliva undata* and *bicincta*, Lamarck.

Hab. Zanzibar; Thorn.

The form of this species is very characteristic, being invariably distinguished by its swollen gibbous growth and by the presence of two plicate tubercles upon the columella. The painting is extremely variable, and its varieties have been selected to characterize different species. Fig. *a*, mottled with grey dots and encircled by two broad splashed brown bands, represents Lamarck's *O. bicincta*, whilst the specimens Fig. *d, f, g*, dotted and lightning-marked with black-brown upon a greyish-white ground, belong to his *O. undata*. The varieties Fig. *b, c* are very richly banded, clouded, and zigzag-marked with livid-blue, olive, and orange. Fig. *e* represents a broad-streaked and zigzag brown-black painted variety. Sometimes the species is entirely black, sometimes entirely white.

September, 1850.

32. b.

32. a.

32. c.

33. b.

33. c.

35. e.

33. d.

Sowerby, del. et lith.

Frederic Reeve imp.

OLIVA.

PLATE XVI.

Species 32. (Fig. *a*, *b*, Mus. Cuming.)

OLIVA NEBULOSA. *Oliv. testâ cylindraceo-oblongâ, tenuidiusculâ, interdùm subangustâ et acuminatâ, columellâ basin versus concavo-depressâ, plicis columellaribus numerosis, confertis; cæruleascente-albâ, griseo-cæruleo nebulatâ aut strigatâ, zonâ fulvâ, fusco-flammulatâ, ad basin, columellâ cæruleascente-albâ, maculâ purpureâ basin versus notatâ.*

THE CLOUDED OLIVE. Shell cylindrically oblong, rather swollen, sometimes rather narrow and acuminated, columella concavely depressed towards the base, columellar plates numerous, close-set; bluish-white, clouded and streaked with grey-blue, with a fulvous band, flamed with brown, at the base, columella bluish-white, marked with a purple spot towards the base.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 628. *Hab.* ——?

M. Duclos regards this species as the young of *O. gibbosa*, and I have myself quoted it with doubt as a variety; it appears, however, to be distinct, especially as regards the narrow form represented at Fig. 32 *b*. Both varieties are distinguished by a characteristic purple spot towards the base of the columella.

Species 33. (Fig. *a*, *c*, Mus. Steere; Fig. *b*, *c*, Mus. Cuming.)

OLIVA ACUMINATA. *Oliv. testâ elongatâ, angustâ, spirâ exsertâ, acuminatâ, plicis columellaribus numerosis, basi calloso-contortis; purpurascente-spadicea, maculis parvis serpentinis pallidis asperâ, ad suturas reticulo notatâ, zonâ latâ spadiceâ, interdùm interruptâ, ad basin cingulatâ, columellâ et aperturæ fauce cæruleascente-albis.*

THE ACUMINATED OLIVE. Shell elongated, narrow, spire exserted, acuminated, columellar plaits numerous, callously twisted at the base; purplish-fawn, sprinkled with a few small pale spots, marked with a network pattern at the sutures, and encircled at the base with a broad fawn zone, which is sometimes interrupted with light splashes, columella and interior of the aperture bluish-white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 625.

Eadem var. *Oliva luteola*, Lamarck.

Hab. Senegal, north-west coast of Africa.

In the young state of this species the delicate net-work beneath the sutures is elaborately constructed, and the middle portion of the shell is frequently marked with interrupted zigzag streaks. After the first few whorls this design of pattern becomes obscured.

Species 100. (Fig. 33 *d*, Mus. Steere.)

OLIVA SUBULATA. *Oliv. testâ elongatâ, angustâ, tenuiculâ, subventricosâ, spirâ exsertâ, acuminatâ, plicis columellaribus ad basin calloso-contortis; fulvo-spadiceâ aut griseo-cæruleascente, maculis parvis albidis umbratis notatâ, strigis brevibus nigricantibus obliquè concentricis infra suturas, zonâ latâ spadiceâ ad basin cingulatâ, columellâ et aperturæ fauce cæruleascente-albis.*

THE SUBULATE OLIVE. Shell elongated, narrow, rather thin, slightly ventricose, spire exserted, acuminated, columellar plaits callously twisted at the base; fulvous-fawn or grey-blue, marked with small whitish shaded spots, with short obliquely concentric blackish streaks beneath the sutures, encircled with a broad fawn band at the base, columella and interior of the aperture bluish-white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 626. *Hab.* Bencoolen, west coast of Sumatra (in sandy mud at low water); Cuming.

The irregular numbering of this species arises from the circumstance of my having completed the arrangement of the genus before discovering that Lamarck's *O. subulata* is truly distinct from his *O. acuminata*. It is a more ventricose, thinner shell, marked near the sutures with short obliquely concentric streaks in place of network, and inhabits a widely different locality.

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34. a.

34. b.

34. c.

34. d.

34. e.

34. f.

34. g.

34. h.

34. i.

34. k.

Sowerby del. et lith.

OLIVA.

PLATE XVII.

Species 34. (Fig. *a*, *e*, *h*, Mus. Cuming. Fig. *b*, *c*, *d*, *g*, *i*, *k*, Mus. Steere.)

OLIVA ISPIDULA. *Olic. testâ oblongâ vel elongato-oblongâ, cylindraceâ, crassiusculâ, spirâ brevi, versus apicem exsertâ, columellâ subdepressâ, callosâ, plicis plus minus obscuris; albâ, vel lutescente, vel aurantiâ, vel cinereâ, punctis aut maculis linearibus transversis fuscis notatâ, interdum nigro-fusco fasciatâ aut cariè maculatâ, columellâ eburneâ, aperturæ fauce chocolato-fuscâ.*

THE VARICOLOURED OLIVE. Shell oblong or elongately oblong, cylindrical, rather thick, spire short, exserted towards the apex, columella rather depressed, callous, with the plaits more or less obscure; white or yellowish, or orange, or ash, marked with brown dots and transverse linear spots, sometimes banded or variously blotched with black-brown, columella ivory-white, interior of the aperture chocolate-brown.

Voluta ispidula, Linnæus, Syst. Nat. 12th edit. p. 1188. *Oliva ispidula*, Lamarck.

Varietates, *O. candida*, and *oriola*, Lamarck.

Oliva flaveola, *stellata* and *tigridella*, Duclos.

Hab. Philippine Islands.

It is almost labour in vain to describe the external colouring of this species, which is the most variable of the genus, and does not appear to follow any particular design. The colouring of the interior of the shell is extremely characteristic, being with rare exception of a uniform chocolate-brown. Fig. *a* (*Oliva tigridella*, Duclos) is splashed with triangular blotches of black-brown upon a warm cream-coloured ground. Fig. *b*, a very uncommon variety, is encircled with livid blue and reddish pencil-bands. Fig. *c* is very lightly mottled throughout with black-brown. Fig. *d* (*Oliva stellata*, Duclos) is ivory-white, sparingly marked with sharp hieroglyphic dashes of violet-shaded black-brown. Fig. *e* (*Oliva flaveola*, Duclos) is of a warm uniform orange tint. Fig. *f* is of a mingled ash and yellow ground covered with black-brown dashes, and encircled with a broad band of the same colour beneath the sutures. Fig. *g* is of a livid ash-colour speckled here and there with dark dots. Fig. *h* (*Oliva tigridella*, Duclos) is almost entirely black-brown. Fig. *i* is of an opake livid grey, with a few scattered dots of darker colour; and Fig. *k* is of a warm yellowish hue, closely dotted and mottled throughout with olive and dark olive-black. The pure white state of the species has been named *O. candida* by Lamarck, whose *O. oriola* appears to be another variety wanting the rich chocolate-brown interior. The shell figured for *O. oriola* by Duclos is probably a variety of *O. reticulata*.

35. b.

35. a.

36.

37.

38. a.

38. b.

39.

Sowerby Del. et lith.

Frederic Reeve, Imp.

OLIVA.

PLATE XVIII.

Species 35. (Fig. *a*, *b*, Mus. Steere.)

OLIVA HIATULA. *Oliv. testâ subfusiformi-ovatâ, ventricosâ, spirâ subacuminatâ, columellâ elevatâ, plicis distinctis, peculiariter calloso-contortis, aperturâ patulâ, supernè emarginatâ; spadiceo-griseâ, punctis strigisque cæruleo-fuscis apicem versus subobscurè notatâ, zonâ latâ fulvâ ad basin cingulatâ, columellâ livido-purpurascente, aperturæ fauce livido-fuscâ.*

THE GAPING OLIVE. Shell somewhat fusiformly ovate, ventricose, spire somewhat acuminated, columella raised, plaits distinct, peculiarly callously twisted, aperture wide open, emarginated at the upper part; fawn-grey, somewhat obscurely marked towards the apex with blue-brown dots and streaks, and encircled round the base with a broad fulvous zone, columella livid-purple, interior of the aperture livid-brown.

Voluta hiatula, Gmelin, Syst. Nat. p. 3442.
Oliva hiatula, var. *b*, Lamarck.
L'Agaron, Adanson.
Ancilla maculata, Schumacher.
Hiatula Lamarckii, Swainson.

Hab. Senegal and Mouth of the Gambia, West Africa.

This and the following species were confounded together by M. Duclos, but they are quite distinct and inhabit very remote localities. The true *O. hiatula* (pl. 3. fig. 15, of his monograph) chiefly characterized by the raised constricted growth of the columella and by its livid-purple colouring, is from the west coast of Africa, collected by Adanson at Senegal, and by later travellers at the mouth of the Gambia. *O. testacea* (pl. 4. fig. 19, 20, of Duclos' monograph), concerning which Lamarck especially notices the dark brown colouring of the spire and base of the last whorl, was collected by Humboldt and Bonpland on the shores of Mexico, and more recently by Mr. Cuming in the same locality at Real Llejos.

Species 36. (Mus. Cuming.)

OLIVA TESTACEA. *Oliv. testâ fusiformi-ovatâ, ventricosâ, spirâ acuminatâ, plicis columellaribus calloso-contortis, aperturâ patulâ, supernè emarginatâ; cinereo-griseâ, lineis flexuosis fuscis cæruleo-umbratis plus minus obscurè pictâ, apicem versus et ad basin fumeo-fuscâ, columellâ albâ, aperturæ fauce violaceo-fuscâ.*

THE TESTACEOUS OLIVE. Shell fusiformly ovate, ventricose, spire acuminate, columellar plaits callously twisted, aperture wide open, emarginated at the upper part; ash-grey, more or less obscurely painted with blue-shaded brown flexuous lines, smoky-brown at the base and towards the apex, columella white, interior of the aperture violet-brown.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 627.
Oliva hiatula, pars, Duclos.

Hab. Real Llejos, Mexico (in sandy mud at a depth of about six fathoms); Cuming.

Of a more acuminated form than the preceding species, from which it is further distinguished by its smoky or purple-brown colouring, and white columella. It may be observed that the localities of the two species are very remote from each other.

Species 37. (Mus. Steere.)

OLIVA STEERIÆ. *Oliv. testâ oblongo-ovatâ, ventricosâ, spirâ brevi, acutâ, columellâ medio depressâ, supernè callosâ, plicis calloso-contortis; griseo-fuscâ, obscurè maculatâ, spirâ et zonâ basali fumeo-fuscis, interdum cærulescente-lacteâ, immaculatâ, columellâ eburneâ, aperturæ fauce intensè purpureâ.*

STEERE'S OLIVE. Shell oblong-ovate, ventricose, spire short, sharp, columella depressed in the middle, callous at the upper part, plaits callously twisted; greyish-brown, obscurely spotted, spire and basal zone smoky-brown, sometimes bluish cream-colour, unspotted, columella ivory-white, interior of the aperture deep purple.

Oliva hiatula, pars, Duclos.

Hab. Mouth of the Gambia, West Africa.

The *O. Steeriæ* is chiefly distinguished from *O. hiatula* of the same locality, by its depressed white columella, whilst the general colouring of the shell is more like that of the Mexican *O. testacea*. It differs, however, from the last-named species both in the depression of the columella, which gives it a boat-shaped form, and in having a shorter spire. The coloured state of *O. Steeriæ* is well represented by Duclos, under *O. hiatula*, Mon. Oliv. pl. 3. f. 14. The specimen figured in the accompanying plate, represents a variety in which the entire surface of the shell is overlaid with a milk-white coating, and the interior richly purple-enamelled.

I have the pleasure to name this fine species in honour of Miss Steere, a lady whose magnificent collection of Olives, and nice discrimination of their varieties of character, have been of essential service to me in the preparation of this monograph.

Species 38. (Mus. Steere.)

Oliva aquatilis. *Oliv. testâ ovatâ, ventricosâ, subtus concavâ, spirâ brevi, callosâ, columellâ medio depressâ, superne callosâ, plicis parvis, numerosis, duabus basalibus fortioribus, aperturâ patulâ; griseo-cærulescente, strigis flexuosis saturatioribus undique pictâ, zonis duabus, alterâ fuscâ, alterâ livido-purpureâ, cingulatâ, columellâ albâ, aperturæ fauce livido-purpurascente.*

The ripplED Olive. Shell ovate, ventricose, concave beneath, spire short, callous, columella depressed in the middle, callous at the upper part, plaits small, numerous, two basal plaits stronger, aperture wide open; greyish-blue, painted throughout with flexuous streaks of a darker grey-blue, encircled at the base with two zones, one of which is fulvous, the other livid-purple, columella white, interior of the aperture tinged with livid-purple.

Oliva auricularia, Duclos (not of Lamarck).

Hab. Brazil.

The form *O. aquatilis* is just intermediate between that of the foregoing species and of the following; and it is further characterized by the rippled painting and divided colouring of the broad basal enamel zone.

Species 39. (Mus. Cuming.)

Oliva auricularia. *Oliv. testâ depresso-ovatâ, late ventricosâ, subtus concavâ, spirâ brevissimâ, callositate occultâ, columellâ medio depressâ, superne valde nitidâ, verrucosâ, plicis parvis, fere occultis, duabus basalibus validis, aperturâ patulâ; cærulescente-griseâ zonâ basali latâ, livido-fuscescente, columellâ albâ, aperturæ fauce livido-fuscescente.*

The ear-shaped Olive. Shell depressly ovate, broad, ventricose, concave beneath, spire very short, concealed by callosity, columella depressed in the middle, very callous at the upper part, warty, plaits small, almost concealed, two basal plaits strong, aperture wide open; bluish-grey, broad basal zone livid-brown, columella white, interior of the aperture pale livid-brown.

Lamarck, Anim. sans vert. (Deshayes' edit.) vol. x. p. 681.

Oliva patula, Sowerby.

Oliva clancophila, Duclos.

Hab. Brazil.

This shell is remarkably distinguished by its broad gibbous growth, and enormous callous deposit on the upper part of the columella.

41.

40. a.

42. a.

42. b.

43. g.

43. i.

40. h.

44.

45. b.

45. a.

Sowerby del. et lith.

Frederic Reeve imp.

OLIVA.

PLATE XIX.

Species 40. (Fig. *a*, *b*, Mus. Steere.)

OLIVA STAINFORTHII. *Olivæ. testâ ovatâ, crassâ, supra mediam peculiariter tumidâ, spirâ brevi, acuminatâ, plicis columellaribus fortibus, latiusculis; albâ, punctis rufescentibus, grisco-umbratis, evanidè asperâ, maculis perpaucis nigricantibus sparsim bifasciatim notatâ, juxta suturas immaculatâ, columellâ et aperturæ fauce eburneis.*

STAINFORTH'S OLIVE. Shell ovate, thick, peculiarly swollen above the middle, spire short, acuminated, columellar plaits strong, rather broad; white, faintly sprinkled with grey-shaded reddish dots, and marked with a very few blackish blotches disposed in two bands, unspotted next the sutures, columella and interior of the aperture ivory-white.

Hab. ——?

A new and very distinct species, in the collection of Miss Steere, which gives me an opportunity of recording my sense of the valuable additions which have been made to our knowledge of this genus by the communicated experience of the Rev. F. J. Stainforth.

Species 41. (Mus. Steere.)

OLIVA FLAMMULATA. *Olivæ. testâ cylindraceo-ovatâ, spirâ subacuminatâ, plicis columellaribus subæqualibus; albidâ, carneo-fusco reticulatâ, areis reticulatis hic illic peramplis, columellâ basi fuscescente tinctâ, aperturæ fauce albâ.*

THE FLAME-MARKED OLIVE. Shell cylindrically ovate, spire somewhat acuminated, columellar plaits rather faint; whitish, reticulated with flesh-brown, the reticulated spaces being here and there very large, columella tinged with light brown, interior of the aperture white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 613.

Hab. West Indies.

This species is very closely allied to *O. reticulata*, but differs in not having the net-work gathered in clusters of lines at the sutures. The net-work spaces are here and there remarkably large, especially on the upper surface of the last whorl, which, in the accompanying figure, has been inadvertently turned from the observer.

Species 42. (Fig. *a*, Mus. Steere; Fig. *b*, Mus. Cuming.)

OLIVA AUSTRALIS. *Oliv. testâ oblongo-cylindraceâ, spirâ exsertâ, columellâ medio subcompressâ, plicis numerosis, ætate cito evanidis; albidâ, lineis undulatis cinereo-purpureis, sæpè promiscuis, ornatâ, anfractuum margine suturali punctato, columellâ et aperturæ fauce eburneis.*

THE SOUTHERN OLIVE. Shell oblong-cylindrical, spire exserted, columella slightly compressed in the middle, plaits numerous, soon fading with age; whitish, ornamented with waved purple-ash lines, which are often promiscuous, sutural edge of the whorls dotted, columella and interior of the aperture ivory-white.

DUCLOS, Mon. Oliv. pl. 8. f. 3, 4.

Hab. ——?

The waved marking of this species appears to be invariably of an ash-purple colour. It is of an oblong-cylindrical form, and very distinctly characterized.

Species 43. (Mus. Cuming.)

OLIVA INDUSICA. *Oliv. testâ ovatâ, tenuiculâ, medio gibboso-inflatâ, spirâ brevi, columellâ medio depresso-concavâ, plicis plurimis, aperturâ subpatulâ; albâ, punctis fuscescentibus, promiscuè undulatis, asperâ, margine suturali strigis fuscis irregularibus ornato, basi zonâ fuscescente cingulatâ, columellâ albâ, aperturæ fauce ferrugineâ.*

THE INDUS OLIVE. Shell ovate, rather thin, gibbously inflated in the middle, spire short, columella depressly concave in the middle, plaits somewhat flattened, aperture rather wide open; white, sprinkled with light brown dots, promiscuously waved, sutural margin ornamented with irregular brown streaks, base encircled with a light brown zone, columella white, interior of the aperture rust-brown.

Hab. Kurrachee, mouth of the Indus.

An interesting new species, allied to *O. histrix* and *testacea*. The surface of the shell is freckled throughout with faint brown dots disposed in promiscuous waves, and the sutural edge of the whorls is conspicuously streaked.

Species 44. (Mus. Cuming.)

Oliva Duclosi. *Oliv. testâ subconico-ovatâ, crassâ, superne tumidâ, spirâ exsertâ, plicis columellaribus subamplis; aurantio-luteâ, olivaceo-fusco densè reticulatâ, areis reticulæ subdistantibus, acutè trigonis, columellâ et aperturæ fauce aurantio-luteis.*

Duclos' Olive. Shell somewhat conically ovate, thick, swollen round the upper part, spire exserted, columellar plaits rather large; orange-yellow, thickly reticulated with olive-brown, the spaces of the network being rather distant and sharply triangular, columella and interior of the aperture orange-yellow.

Oliva jaspidea, Duclos, Mon. Oliv. pl. 8. f. 9, 10.

Hab. Banguey, Island of Luzon, Philippines (on the sands at low water); and Society Islands (in coral sand at low water); Cuming.

The net-work colouring of this species is so thickly developed as only to leave scattered sharply triangular spaces. Sometimes, however, it is much confused.

Having to apply the term *jaspidea* to Lamarck's *O. conoidalis*, in consequence of it being so named by Gmelin under the head of *Voluta*, I have the pleasure to dedicate this species to M. Duclos, in acknowledgment of the value of his *Olivæ* figures, of which it is much to be regretted he never published any descriptions.

Species 45. (Fig. *a*, *b*, Mus. Steere.)

Oliva lentiginosa. *Oliv. testâ oblongâ, subcylindraceâ, crassâ, spirâ exsertâ, plicis columellaribus subæqualibus, brevibus; lutescente-albâ, purpureo-cinereo lentiginosâ, maculis promiscuis nigricantibus infra suturas et in medio cingulatâ, columellâ et aperturæ fauce lutescente-albis.*

The freckled Olive. Shell oblong, somewhat cylindrical, thick, spire exserted, columellar plaits rather large, short; yellowish-white, freckled with light purple-ash, encircled beneath the sutures and round the middle with promiscuous blackish spots, columella and interior of the aperture yellowish-white.

Hab. —— ?

An interesting new species, of which Miss Steere possesses the two characteristic specimens here figured.

47. a.

46.

47. b.

48.

49.

50.

51.

52. a.

52. b.

53.

Sowerby Ed. et lith.

Frederic Reeve, imp.

OLIVA.

PLATE XX.

Species 46. (Mus. Cuming.)

OLIVA GRACILIS. *Oliv. testâ graciliformi, basi truncatâ, Terebelliformi, spirâ elongato-exsertâ, anfractu ultimo brevi, aperturam versus descendente, columellâ arcuatâ, superne callosâ, plicis subcontortis; albâ, rufescente-fusco sparsim et irregulariter reticulatâ, zonâ spadiceo-fuscâ ad basin cingulatâ, spirâ callosâ, parum pictâ, columellâ et aperturæ fusce albis.*

THE SLENDER OLIVE. Shell slenderly fusiform, truncated at the base, Terebellum-shaped, spire elongately exserted, last whorl short, descending towards the aperture, columella curved, callous at the upper part, plaits somewhat twisted; white, sparingly and irregularly reticulated with red-brown, encircled with a fawn-brown zone round the base, spire callous, but little painted, columella and interior of the aperture white.

BRODERIP and SOWERBY, Zool. Journal, vol. iv. p. 379.

Hab. Xipixapi, West Columbia (in sandy mud at a depth of about nine fathoms); Cuming.

Remarkable for the descending convolution of the last whorl, which gives a prolonged appearance to the spire, whilst the shell, being light and broadly truncated at the base, partakes of the form of *Terebellum*. The net-work colouring is extremely partial in its distribution.

Species 47. (Fig. *a*, *b*, Mus. Cuming.)

OLIVA CINCTA. *Oliv. testâ ovatâ, tenuiculâ, inflatâ, basin versus effusâ, spirâ brevi, columellâ medio depressâ, plicis callow-contortis, aperturâ subpatulâ; olivaceo-cinereâ, fusco undique obscurè minutè punctatâ, strigis brevibus perpaucis infra suturas, fasciâ angustâ suturatiore in medio cingulatâ, columellâ albidâ, fusco zonatâ, aperturæ fusce fuscâ.*

THE GIRDLED OLIVE. Shell ovate, rather thin, inflated, effused towards the base, spire short, columella depressed in the middle, plaits callously distorted, mouth rather wide open; olive-ash, obscurely minutely dotted throughout with brown, with a few short brown streaks beneath the sutures, and encircled with a narrow darker band round the middle, columella whitish, zoned with brown, interior of the aperture brown.

Hab. ——?

There is a strong apparent resemblance between this species and *O. Iudsuico*, but they differ materially on comparison.

Species 48. (Mus. Cuming.)

OLIVA BIPLICATA. *Oliv. testâ abbreviato-ovatâ, crassâ, obesâ, longitudinaliter substriatâ, spirâ brevi, columellâ arcuatâ, lævi, superne callosâ, ad basin biplicatâ, aperturâ basi effusâ; cæruleascente-griseâ, suturis fuscis, columellâ basique luteoli violaceis, aperturâ cæruleascente-griseâ, margine violaceâ.*

THE TWO-PLAITED OLIVE. Shell abbreviately ovate, thick, stout, slightly strinted longitudinally, spire short, columella arched, smooth, callous at the upper part, two-plaited at the base, aperture effused at the base; bluish-grey, sutures brown, columella and base deep violet, aperture blue-grey, violet at the edge.

SOWERBY, Tankerville, Cat. App. p. 33.

Hab. Monterey, California (in the sands at low water); Hinds.

Well distinguished by its short obese growth, and two basal columellar plaits.

Species 49. (Mus. Cuming.)

OLIVA KALEONTINA. *Oliv. testâ oblongo-cylindraceâ, spirâ exsertâ, plicis columellaribus parvisculis; purpurascente-spadiceâ, rufo-castaneo interruptè maculâtâ et variegatâ, maculis oblongo-quadratis infra suturas, columellâ et aperturæ fusce purpurascente-albis.*

THE WOVEN OLIVE. Shell oblong-cylindrical, spire exserted, columellar plaits rather small; purple-fawn, interruptedly spotted and variegated with reddish-chestnut, with oblong-square spots beneath the sutures, columella and interior of the aperture purplish-white.

DUCLOS, Mon. Oliv. pl. S. f. 7, 8.

Hab. Bay of Guayaquil and Gallapagos Islands (at a depth of from six to twelve fathoms); Cuming.

There is a peculiarity in the form and colouring of this species which appears constant, and renders it easy to be recognized.

Species 50. (Mus. Cuming.)

OLIVA RUFULA. *Oliv. testâ oblongâ, spirâ brevi, depressâ, anfractu ultimo ad extremitatem posticam aperturæ callosa-producto, plicis columellaribus subevanidis; fuscescente-spadiceâ, rufo-castaneo obliquè fasciatâ, lineis obscurè diagonaliter decussatâ, columellâ et aperturæ fauce subspadiceis.*

THE REDDISH OLIVE. Shell oblong, spire short, depressed, last whorl callously produced at the posterior end of the aperture, columellar plaits rather faint; brownish-fawn, obliquely banded with reddish-chestnut, and obscurely diagonally crossed with lines of the same colour, columella and interior of the aperture somewhat fawn-tinted.

DUCLOS, Mon. Oliv. pl. 19. f. 9, 10.

Hab. Cagayan, Island of Mindanao, Philippines (in sandy mud at a depth of twenty fathoms); Cuming.

The form of this species is similar to that of *O. maura*; but the cross-barred style of colouring is characteristic and appears constant.

Species 51. (Mus. Cuming.)

OLIVA CONTORTUPLICATA. *Oliv. testâ ovatâ, tenuiculâ, medio gibbosâ, subinflatâ, spirâ brevi, acuminatâ, callosâ, apice acutâ, columellâ valdè arcuatâ, plicis peculiariter fortiter contortis; cærulescente-griseâ, zonâ angustâ castaneâ basi cingulatâ, columellâ albâ, aperturæ fauce intensè castaneâ.*

THE TWISTED-PLAITED OLIVE. Shell ovate, rather thin, gibbous and slightly inflated in the middle, spire short, acuminated, callous, sharp at the apex, columella much arched, plaits peculiarly strongly twisted; blue-grey, encircled round the base with a narrow chestnut zone, columella white, interior of the aperture very dark chestnut.

Hab. Senegal, West Africa.

Very remarkably distinguished by a peculiar twisted growth of the plaited portion of the columella, above and around which is a depressed groove, coloured by the same dark chestnut as the interior of the shell.

Species 52. (Mus. Cuming.)

OLIVA MULTIPLICATA. *Oliv. testâ oblongo-cylindraceâ, subangustâ, spirâ acuminatâ, plicis columellaribus subtilibus, numerosissimis, aperturâ angustâ; albidâ, fusco-rubente undique minutissimè et eximiè reticulatâ, maculis perpaucis punctisque medio promiscuè cingulatâ, linearum maculis infra suturas.*

THE MANY-PLAITED OLIVE. Shell oblong-cylindrical, rather narrow, spire acuminated, columellar plaits fine and very numerous, aperture narrow; whitish, very minutely and delicately reticulated throughout with brown-red, promiscuously encircled round the middle with a few blotches and dots, with blotches of lines beneath the sutures.

Hab. —— ?

This species is also remarkably distinct, having the columellar plaits much finer and more numerous than in any hitherto known. The pattern consists of a delicate net-work of most elaborate fabric, very similar to that of the *Conus gloria-maris*.

Species 53. (Mus. Cuming.)

OLIVA TESSELLATA. *Oliv. testâ ovatâ, crassâ, spirâ brevi, apice acutâ, plicis columellaribus latiusculis; luteâ, purpureo-nigricante sparsim maculatâ, columellâ et aperturæ fauce intensè purpureo-violaceis.*

THE TESSELLATED OLIVE. Shell ovate, thick, spire short, sharp at the apex, columellar plaits rather broad; yellow, sparingly spotted with purple-black, columella and interior of the aperture intense, purple-violet.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 620.

Cylindrus tigrinus, Meuschen.

Voluta tigrina, Schroeter.

Hab. Island of Ticao, Philippines; Cuming.

This well-known species stands alone in the genus, there being no other allied to it in respect of its characteristic style of painting.

54. a.

54. b.

54. c.

55. a.

56. a.

56. b.

55. b.

57. a.

57. b.

57. c.

Sowerby del et lith.

Frederic Reeve imp.

OLIVA.

PLATE XXI.

Species 54. (Fig. *a*, *b*, Mus. Steere; Fig. *c*, Mus. Cuming.)

OLIVA VOLUTELLA. *Oliv. testâ oblongo-cylindraceâ, spirâ exsertâ, apice acutâ, plicis columellaribus numerosis, omnibus basalibus; caruleo-griseâ aut fusco-purpureâ, immaculatâ, anfractu et zonâ basali castaneo-fuscis, zonâ interdum autem raro pallidè luteâ, columellâ albidâ, aperturæ fauce luteâve castaneâ.*

THE LITTLE VOLUTE OLIVE. Shell oblong-cylindrical, spire exserted, sharp at the apex, columellar plaits numerous, all basal; blue-grey or brown-purple, unspotted, sutures and basal zone chestnut-brown, sometimes, but rarely, pale yellow, columella whitish, interior of the aperture very dark chestnut.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 623. *Oliva caerulea*, Wood.

Hab. Panama (on mud banks at low water); Cuming.

The whole of the columellar plaits of this species are upon the callous basal zone. The shell varies in colour from a blue-green to a very dark chestnut-purple.

Species 55. (Fig. *a*, *b*, Mus. Metcalfe.)

OLIVA ANCILLARIOIDES. *Oliv. testâ oblongâ, crassâ, spirâ exsertâ, acuminatâ, plicis columellaribus callosocontortis; nordidè carneolâ, immaculatâ, nisi infra suturas evanidè strigatâ, zonâ basali pallidiore, columellâ et aperturæ fauce albidis.*

THE ANCILLARIA-LIKE OLIVE. Shell oblong, thick, spire exserted, acuminated, columellar plaits callously twisted; dull carnelion, unspotted save beneath the sutures, where it is faintly streaked, basal zone paler, columella and interior of the aperture whitish.

Hab. Kurrachee, Mouth of the Indus.

The colour and general aspect of this species is very similar to that which prevails among the *Ancillariæ*. The only specimen known to me, in addition to the one here figured from Mr. Metcalfe's collection, belongs to Mr. Cuming, with the above-named locality attached to it.

Species 56. (Fig. *a*, *b*, Mus. Cuming.)

OLIVA PAXILLUS. *Oliv. testâ oblongo-conicâ, crassâ, obesâ, subfusiformi, spirâ ampliter exsertâ, plicis columellaribus paucis; eburneâ, fusceseente obscurè notatâ, maculis reticulatis castaneis aspersis infra suturas.*

THE PEG OLIVE. Shell oblong-conical, thick, stout, rather fusiform, spire largely exserted, columellar plaits few in number; ivory-white, obscurely marked with light brown, with scattered spots of chestnut network beneath the sutures.

Hab. —— ?

The form and painting of this species both remind one of certain varieties of *Conus reticulatus*.

Species 57. (Fig. *a*, *b*, *c*, Mus. Steere.)

OLIVA LIGNEOLA. *Oliv. testâ ovatâ, supra tumidiusculâ, spirâ brevi, subacutâ, plicis columellaribus numerosis, subevanidis; fuleâ aut nigricante-castaneâ, immaculatâ, zonâ basali pallidiore nigricante-castaneo tinctâ, columellâ albâ, interdum purpurascente tinctâ, aperturæ fauce carnelescente-albâ.*

THE WOODEN OLIVE. Shell ovate, rather swollen round the upper part, spire short, rather sharp, columellar plaits numerous, rather faint; fulvous or blackish-brown, unspotted, basal zone paler, stained with blackish chestnut, interior of the aperture bluish-white.

Hab. —— ?

The specimens here figured from Miss Steere's collection appear to represent a species distinct from any described hitherto, one of a fulvous-brown colour, the other a very dark brilliant chestnut, of which colour both have a characteristic stain at the base.

58. a.

58. b.

58. c.

59.

60. a.

60. b.

60. c.

60. d.

60. e.

60. f.

Sowerby del. et lith.

Frederic Reeve imp.

OLIVA.

PLATE XXII.

Species 58. (Fig. *a*, Mus. Steere; Fig. *b*, *c*, Mus. Cuming.)

OLIVA JASPIDEA. *Oliv. testâ acuminato-oblongâ, subfusiformi, spirâ exsertâ, columellâ tenuiplicatâ; albidâ, fusco profusè minutè punctatâ, maculis reticulatis infra suturas et ad zonam basalem, interdum cinereo aut caruleo nebulatâ et albipunctatâ.*

THE JASPER OLIVE. Shell acuminately oblong, somewhat fusiform, spire exserted, columella finely plaited; whitish, profusely minutely dotted with brown, with blotches of net-work beneath the sutures and on the basal zone, sometimes clouded with ash or blue and dotted with white.

Voluta jaspidea, Gmelin, Syst. Nat. p. 3442.

Oliva convidalis, Lamarck.

Hab. West Indies. Red Sea.

This pretty species is well characterized by the blotches of net-work beneath the sutures, and by a pattern of similar design on the basal zone, whilst the intermediate space is curiously wave-dotted. The specimens represented at Fig. 58 *a* and 58 *c* are from the West Indies, whilst the blue-clouded variety at 58 *b* is from the Red Sea.

Species 59. (Mus. Steere.)

OLIVA VOLVARIOIDES. *Oliv. testâ oblongo-ovatâ, spirâ brevi, acutâ, columellâ multiplicatâ, plicis brevibus, subprominentibus; undique viridi castaneâ, columellâ et aperturæ fauce cærulescente-albis.*

THE VOLVARIA-LIKE OLIVE. Shell oblong-ovate, spire short, sharp, columella many-plaited, plaits short, rather prominent; bright chestnut throughout, columella and interior of the aperture bluish-white.

DUCLOS, Mon. Oliv. pl. 25. f. 14.

Hab. —— ?

The uniform chestnut colouring appears to be peculiar to the species in this instance.

Species 60. (Fig. *a*, *b*, *c*, *f*, Mus. Cuming; Fig. *d*, *e*, Mus. Steere.)

OLIVA CARNEOLA. *Oliv. testâ oblongo-cylindraceâ, spirâ brevi, columellâ multiplicatâ, plicis brevibus; eburneâ, purpurascente densè reticulatâ, anfractûs ultimi margine postico punctato, deinde testâ crassâ, medio tumidâ, plicis subevanidis, aurantio-carneolâ vividè fasciatâ.*

THE CARNELION OLIVE. Shell oblong-cylindrical, spire short, columella many-plaited, plaits short; ivory-white, thickly reticulated with light purple, posterior edge of the last whorl dotted, then shell thickened, swollen round the middle, columellar plaits somewhat faint, banded with bright orange-carnelion.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 621. Varietates.

Olivæ todoinæ and *Athenæ*, Duclos.

Hab. Philippine Islands (at depths varying from ten to sixty fathoms); Cuming.

This species varies from the oblong-cylindrical purple-netted state represented at Fig. 60 *a*, *b*, to the stout rich orange-carnelion banded state at Fig. 60 *e*, the latter being probably an overcoating of the former. In the specimen figured at 60 *d*, *e*, a mixture of these patterns and colours is represented, in which the purple net-work of the former state is seen beneath a layer of the carnelion enamel of the latter.

Oliva, Pl. XXIII.

61. a.

61. b.

62.

63. a.

64. a.

64. b.

65. b.

65. a.

65. b.

66.

Sowerby del et lith.

Frederic Reeve imp.

[Figures slightly enlarged.]

OLIVA.

PLATE XXIII.

Species 61. (Fig. *a*, *b*, Mus. Steere.)

OLIVA SEMISTRIATA. *Olivæ, testâ acuminato-ovatâ, spirâ exsertâ, basi latè effusâ, truncatâ, anfractûs ultimi dimidio postico concentricè lævi-striato, striis creberrimis, interdum obsoletis, columellâ arcuatâ, depressâ, basi obsoletè unipli catâ; griseo-plumbeâ, zonâ luteolâ angustâ cingulatâ, spirâ callosâ, albidâ, suturis castaneo-brunneis, columellâ basique albis, aperturæ fauce intensè castaneo-brunneâ.*

THE HALF-STRIATED OLIVE. Shell acuminately ovate, spire exserted, base broadly effused, truncated, posterior half of the last whorl concentrically deeply striated, striæ close-set, sometimes obsolete, columella arched, depressed, obsoletely one-plaited at the base; greyish lead-colour, encircled with a narrow yellowish zone, spire callous, whitish, sutures chestnut-brown, base and columella white, interior of the aperture dark chestnut-brown.

GRAY, Zool. Beechey's Voyage, p. 130. pl. 36. f. 10.

Hab. Salango, West Columbia; Cuming.

This species is well characterized by the upper or posterior portion of the last whorl being very closely concentrically grooved with striæ, which in the preceding whorls become obliterated by the flow of enamel from the aperture.

The locality of *O. semistriata* is not given in Beechey's Voyage. The species was observed at Salango, by Mr. Cuming, moving about by hundreds with great rapidity in the wet sand.

Species 62. (Mus. Steere.)

OLIVA COLUMELLARIS. *Olivæ, testâ acuminato-ovatâ, depressâ, spirâ brevinsculâ, acutâ, basi latè effusâ, truncatâ, columellâ usque ad spiræum crassâ callosâ, basi obsoletè unipli catâ; cæruleescente-plumbeâ, luteo-albido bizonatâ, columellâ albâ, aperturæ fauce intensè castaneo-brunneâ.*

THE COLUMELLAR OLIVE. Shell acuminately ovate, depressed, spire rather short, sharp, base broadly effused, truncated, columella thickly callous all along to the spire, obsoletely one-plaited at the base; bluish lead-colour, two-zoned with yellowish-white, columella white, interior of the aperture dark chestnut-brown.

SOWERBY, Tankerville Catalogue, App. p. 35.

Hab. Payta, Peru (in fine sand at low water); Cuming.

Remarkably distinguished by a very copious deposit of enamel along the columella on to the spire.

Species 63. (Fig. *a*, *b*, Mus. Steere.)

OLIVA LINEOLATA. *Oliva, testâ acuminato-oblongâ, crassâ, spirâ valdè exsertâ, callosâ, columellâ arcuatâ, basi subobscurè multiplicatâ et costortâ; rufescente-albâ, lineolis fuscis infra suturas strigatâ et reticulatâ, basi immaculatâ, columellâ et aperturæ fauce intensè violaceo-purpureis.*

THE LINE-NETTED OLIVE. Shell acuminately oblong, thick, spire much exserted, callous, columella arched, somewhat obscurely many-plaited and twisted at the base; fawn-white, streaked and reticulated beneath the sutures with brown lines, base unspotted, columella and interior of the aperture deep violet-purple.

GRAY, Wood's Index Testaceologicus, Supp. pl. 5. f. 37.

Oliva dama, Duclos.

Hab. California.

The net-work of this species descends in rather long lines from the sutures. The columella and interior of the shell are well distinguished by their rich violet-purple colouring.

Species 64. (Fig. *a*, Mus. Steere; Fig. *b*, Mus. Cuming.)

OLIVA NIVEA. *Oliva, testâ acuminato-oblongâ, crassâ, spirâ valdè exsertâ, callosâ, columellâ obscurè multiplicatâ, superiùs callosâ; lutescente-albâ, infra suturas roseo-purpureo eximiè promiscuè reticulatâ, fasciâ reticulatâ medio pallidiore, basi immaculatâ, columellâ et aperturæ fauce albis.*

THE SNOWY OLIVE. Shell acuminately oblong, thick, spire much exserted, callous, columella obscurely many-plaited, callous at the upper part; yellowish-white, delicately promiscuously reticulated beneath the sutures with rose-purple, the reticulated band being paler in the middle, base unspotted, columella and interior of the aperture white.

Valuta nivea, Gmelin, Syst. Nat. p. 3442.

Oliva eburnea, Lamarck.

Hab. West Indies.

Encircled with a broad band of delicately painted rose-purple net-work upon a semitransparent yellowish-white ground, the columella and interior of the aperture being free from any tinge of colour.

Species 65. (Fig. *a, b*, Mus. Steere.)

Oliva Esther. *Olivæ testâ ovatâ, crassâ, obesâ, spirâ brevisculâ, columellâ arcuatâ, obscurè multiplicatâ, superne callosâ; albâ, lineis plurimis fuscescentibus irregulariter undatâ, vix reticulatâ, fasciâ castaneâ anguatâ ad basin, columellâ et aperturæ fauce albis.*

The Esther Olive. Shell ovate, thick, stout, spire rather short, columella arched, obscurely many-plaited, callous at the upper part; white, irregularly waved, scarcely reticulated, with numerous pale brown lines, with a narrow chestnut band at the base, columella and interior of the aperture white.

Duclos, Mon. Oliv. pl. 3. *f.* 7, 8.

Hab. ——?

A shell of short stout growth, in which the painting has the character of an unravelled net-work.

Species 66. (Mus. Cuming.)

Oliva nana. *Olivæ testâ subtrigono-ovatâ, superne tumidâ, callosâ, spirâ brevi, columellâ valdè callosâ, prope versus spiram, basi obscurè uni- bi-plicatâ; albidâ ad spadiceo-lutescente, medio lineis castaneis ocellè angulatis concentricè undatâ.*

The dwarf Olive. Shell somewhat triangularly ovate, swollen and callous round the upper part, spire short, columella very callous towards the spire, base obscurely one- two-plaited; whitish or light fawn-yellow, concentrically waved round the middle with zigzag chestnut lines.

Lamarck, Anim. sans vert. (Deshayes' edit.) vol. x. p. 631. *Voluta nicana*, Dillwyn.

Hab. West Indies.

This little species is well characterized by its swollen callous growth round the upper or posterior edge of the whorls, and by its concentric zigzag style of painting.

67. a.

67. b.

68.

68. a.

69. c.

69. d.

69. b.

70. a.

70. b.

70. c.

Sowerby, del et lith.

Prodgers, Reeve imp.

OLIVA.

PLATE XXIV.

Species 67. (Fig. *a*, Mus. Steere; Fig. *b*, Mus. Cuming.)

OLIVA LEUCOZONIAS. *Oliv. testâ acuminato-oblongâ, spirâ arctè exsertâ, columellâ multiplicatâ, plicis subtilibus, confertis; aurantio-luteâ, zonis angustis distantibus albis cingulatâ, nigro promiscuè lentiginosâ et punctatâ, columellâ et apertura fauce albis.*

THE WHITE-ZONED OLIVE. Shell acuminately oblong, spire sharply exserted, columella many-plaited, plaits fine, close-set; orange-yellow, encircled with two distant narrow white zones, and promiscuously freckled and dotted with black, columella and interior of the aperture white.

GRAY, Zool. Beechey's Voyage, p. 130. pl. 36. f. 24.

Hab. Senegal.

Distinguished by a very peculiar style of painting, which consists of a uniform orange-yellow irregularly freckled and spotted with black, and encircled by two narrow white bands, one next the sutures, over which the black appears in larger freckles, and one a little above the anterior or basal zone.

Species 68. (Mus. Steere.)

OLIVA HIEROGLYPHICA. *Oliv. testâ oblongâ, superne tumidiusculâ, spirâ subacuminatâ, plicis columellaribus numerosis, distinctis; eburneâ, niteute, maculis hieroglyphicis fuscescentibus trifariatim cingulatâ.*

THE HIEROGLYPHIC OLIVE. Shell oblong, rather swollen round the upper part, spire slightly acuminated, columellar plaits numerous, distinct; ivory-white, shining, encircled by three rows of pale brown hieroglyphic marks.

Hab. —— ?

Amply distinguished by its peculiarities of form and marking.

Species 69. (Fig. *a*, *b*, *c*, *d*, Mus. Cuming.)

OLIVA XENOPIRA. *Oliv. testâ ovatâ, crassâ, plus minus obesâ, spirâ brevi, columellâ obsoletè tenuiplicatâ, superne valdè callosâ; eburneâ, lineis subtilibus undatis medio bifasciatim cingulatâ, interdum griseo-fuscescente, maculis parvis aut strigis nigricantibus, caeruleo-umbratis, promiscuè notatâ, zonâ pallidè castaneâ ad basin, columellâ albâ, maculâ amplâ castaneâ interdum tinctâ.*

THE VARIABLE OLIVE. Shell ovate, thick, more or less stout, spire short, columella obsoletely finely plaited, very callous at the upper part; ivory-white, encircled round the middle with two bands of five zigzag lines, sometimes greyish-brown, promiscuously marked with blue-shaded blackish streaks or small spots, with a pale chestnut zone at the base, columella white, sometimes stained with a large chestnut blotch.

DUCLOS, Mon. Oliv. pl. 3. f. 11, 12.

Hab. Madagascar.

The colouring of this species is so exceedingly variable, that it requires a collection of many specimens to understand the relation that subsists between the extreme conditions of it, represented in the accompanying plate.

Species 70. (Fig. *a*, *b*, Mus. Cuming; Fig. *c*, Mus. Metcalfe.)

OLIVA CAERULEA. *Oliv. testâ acuminato-oblongâ, spirâ exsertâ, columellâ arcuatâ, basi contortâ, plicis obsoletis; albidâ, caeruleo vividè tinctâ, interdum fusco subtilissimè punctatâ, suturis basique plus minus intensè castaneis, apice nigricante, columellâ et apertura fauce plerumque castaneo tinctâ.*

THE BLUE OLIVE. Shell acuminately oblong, spire exserted, columella arched, twisted at the base, plaits obsolete; whitish, brightly stained with blue, sometimes very finely dotted with brown, base and sutures more or less deeply stained with chestnut, apex blackish, columella and interior of the aperture generally stained with chestnut.

Hab. Carthagena, Central America?

An interesting small species, of mostly a bright blue porcelain character, sometimes, but rarely, finely dotted with brown, and encircled at the base with very dark chestnut.

---

72. a.

71.

72. b.

73. a.

74. a.

74. b.

73. b.

73. c.

73. d.

73. e.

Sowerby del et lith.

Frederic Reeve imp.

OLIVA.

PLATE XXV.

Species 71. (Mus. Steere.)

OLIVA DEALBATA. *Oliv. testâ acuminato-oblongâ, subangustâ, spirâ exsertâ, apice acutâ, columellâ leviter arcuatâ, plicis obliquis, distantibus, ferè evanidis; eburneâ, punctis fuscis sagittariis infra suturas notatâ, basi fusco sparsim tinctâ.*

THE BLEACHED OLIVE. Shell acuminately oblong, rather narrow, spire exserted, sharp at the apex, columella slightly curved, plaits oblique, distant, almost faded; ivory-white, marked beneath the suture with arrow-headed brown dots, base sparingly stained with brown.

Hab. —— ?

This species appears to be distinct in respect of form, and may prove to be uniformly as colourless as the specimen here figured.

Species 72. (Fig. *a*, Mus. Cuming; Fig. *b*, Mus. Steere.)

OLIVA STRIGATA. *Oliv. testâ ovatâ, tumidiusculâ, Eburnæformi, spirâ exsertâ, columellâ callosâ, basi uniplicatâ; sordidè spadiceâ, strigis fuscescentibus undatis longitudinaliter pictâ, columellâ albâ, aperturæ fauce fuscescente.*

THE STREAKED OLIVE. Shell ovate, rather swollen, Eburna-shaped, spire exserted, columella callous, one-plaited at the base; dull fawn-colour, painted longitudinally with light brown streaks, columella white, interior of the aperture light brown.

Hab. West Indies.

Distinguished by its Eburna-like form, and characteristic striped painting.

Species 73. (Fig. *a*, Mus. Cuming; Fig. *b*, *c*, *d*, *e*, Mus. Steere.)

OLIVA UNDATELLA. *Oliv. testâ cylindraceo-ovatâ, spirâ breviusculâ, apice acuminatâ, columellâ basi quadriplicatâ, plicis planulatis, suprà multiplicatâ, plicis rotundatis, subdistantibus; albidâ, cæruleo-griseo et fusco variè undatâ et nebulatâ, arcis trigonis albidis promiscuis, interdum omnino cæruleo-nigricante, zonâ basali lutescente, lineis fuscis strigatâ, columellâ albidâ, plicis basalibus sæpissimè intensè purpureo tinctis.*

THE WAVED OLIVE. Shell cylindrically ovate, spire rather short, acuminated, columella four-plaited at the base, plaits flattened, many-plaited above, plaits rounded and rather distant; whitish, variously waved and clouded with blue-grey and brown, with promiscuous whitish triangular spaces, basal zone yellowish, streaked with brown lines, columella whitish, basal plaits most frequently stained with deep purple.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 630.

Varietates.

Oliva nedulina and *ozodona*, Duclos.

Hab. Bay of Panama (in sand and on mud banks at low water); Cuming.

It has been necessary to figure several examples of this species to show its variety of colouring, the pattern of which is sometimes disposed in promiscuous waves and sometimes in broad triangular dashes.

Species 74. (Fig. *a*, *b*, Mus. Steere.)

OLIVA ANAZORA. *Oliv. testâ acuminato-oblongâ, subinflatâ, spirâ exsertâ, columellâ supernè callosâ, infrà arcuatâ, latè biplicatâ, plicis deinde multiplicatis, plicis superioribus peculiariter interruptis, aperturâ basi subeffusâ; cinerascente-albâ, lineis fuscis acutè longitudinaliter undatâ, zonâ basali spadiceo-castaneâ, columellâ et aperturæ fauce purpurascente-albis.*

THE BELTED OLIVE. Shell acuminately oblong, rather inflated, spire exserted, columella callous at the upper part, arched beneath and broadly two-plaited, the plaits being divided into numerous other small plaits, of which the upper are peculiarly interrupted, aperture somewhat effused at the base; ash-white, sharply longitudinally waved with brown lines, basal zone fawn-chestnut, columella and interior of the aperture purplish-white.

DUCLOS, Mon. Oliv. pl. 5. f. 3, 4.

Hab. Xipixapi, West Columbia (in sandy mud at the depth of ten fathoms); Cuming.

This very pretty species is constantly distinguished by its delicate wave-streaked painting and dark-brown basal zone. The plaiting of the columella, as above described, is also peculiar.

October, 1850.

76. a.

75.

76. b.

77.

78. a.

78. b.

79.

80. a.

80. b.

80. c.

Sowerby del et lith.

Frederic Reeve imp.

OLIVA.

PLATE XXVI.

Species 75. (Mus. Steere.)

OLIVA PYGMÆA. *Oliv. testâ cylindraceo-oblongâ, spirâ brevi, apice acutâ, columellâ lævigatâ, nisi ad basin plicatâ, plicis angustis, interstitiis subprofundis; aurantio-luteâ, rufo-fusco variè nebulatâ et punctatâ, columellâ et aperturæ fauce albis.*

THE PIGMY OLIVE. Shell cylindrically oblong, spire short, sharp at the apex, columella smooth, except that it is plaited at the base, the plaits being small and the interstices between them rather deep; orange-yellow, clouded and dotted with red-brown, columella and interior of the aperture white.

Hab. ——?

This is, perhaps, nearest allied to *O. ispidula*, but differs sufficiently from any of the varieties of that species.

Species 76. (Mus. Cuming.)

OLIVA ZANOETA. *Oliv. testâ acuminato-oblongâ, tenuiculâ, basi subeffusâ et truncatâ, spirâ exsertâ, columellâ basin versus plicatâ, plicis parvisculis; albidâ, purpurascente-fusco latè bifasciatâ, subpellucidâ, quasi cornea, zonâ angustâ luteolâ opacâ prope ad labia.*

THE HORNY OLIVE. Shell acuminately oblong, rather thin, somewhat effused and truncated at the base, columella plaited towards the base, plaits rather small; whitish, broadly two-banded with purple-brown, rather transparent, as if horny, with a narrow opake yellowish band at the base.

DUCLOS, Mon. Oliv. pl. 2. f. 9, 10.

Hab. ——?

A very distinct species, remarkable for its shining horny appearance, whilst the dark purple-brown bands which encircle the shell are seen through in the interior.

Species 77. (Mus. Steere.)

OLIVA FANNICULATA. *Oliv. testâ oblongâ, superne tumidiusculâ, spirâ exsertâ, columellâ undique plicatâ; carneâ, purpurascente-fusco pallidiusculè undato-nebulatâ, maculis quadratis in medio et infra suturas notatâ.*

THE SILK-CLAD OLIVE. Shell oblong, rather swollen round the upper part, spire exserted, columella plaited throughout; ivory-white, very faintly wave-clouded with purplish-brown, marked round the middle and beneath the sutures in square spots.

DUCLOS, Mon. Oliv. pl. 5. f. 13–18.

Hab. ——?

Very faintly marked, but well characterized by its form, and by the rows of square spots round the middle and beneath the sutures.

Species 78. (Fig. *a*, *b*, Mus. Cuming.)

OLIVA FULGIDA. *Oliv. testâ fusiformi-oblongâ, tenuiculâ, subinflatâ, spirâ valdè exsertâ, basi subeffusâ et truncatâ, basi biplicatâ; albâ, aurantio-fusco pallidissimè undato-nebulatâ, lineis aut maculis parvis linearibus supra et infra marginatâ, zonâ basali callosâ, lacteâ.*

THE GLITTERING OLIVE. Shell fusiformly oblong, rather thin and inflated, spire much exserted, base rather effused and truncated, columella arched, two-plaited at the base; white, very faintly wave-clouded with orange-brown, margined above and below with lines or small linear spots, basal zone callous, cream-coloured.

Hab. West Indies.

A delicately-coloured species, of which the basal zone is more than usually callous and of a clear cream-colour.

Species 79. (Mus. Cuming.)

OLIVA PICTA. *Oliv. testâ cylindraceo-ovatâ, superne tumidâ, spirâ brevissimâ, columellâ subcallosâ, undique plicatâ; fulvo-olivaceâ, fusco nebulatâ punctisque castaneis subtrigonis undique provincè pictâ, anfractuum margine infra suturas castaneo punctato, columellâ carulescente-albâ, aperturæ fauce olivaceo-fuscâ.*

THE PAINTED OLIVE. Shell cylindrically ovate, swollen round the upper part, spire very short, columella rather callous, plaited throughout; fulvous orange, clouded with brown and everywhere promiscuously painted with subtriangular chestnut dots, edge of the whorls beneath the sutures dotted with chestnut, columella bluish-white, interior of the aperture olive-brown.

Hab. Philippine Islands; Cuming.

A characteristic new species, distinguished by its shortened cylindrical form and triangularly dotted marking.

Species 80. (Fig. *a*, *b*, *c*, Mus. Steere.)

Oliva tergina. *Oliv. testâ oblongâ, tumidiusculâ, crassâ, basi truncatâ, spirâ exsertâ, callosâ; columellâ arcuatâ, subexcavatâ, supernè callosâ, infrà obliquè plicatâ; lutescente-albâ aut lacteâ, fusco vel cæruleo-fusco densè reticulatâ, areis interdum interruptis, spirâ et zonâ basali immaculatis, columellâ et aperturæ fauce cærulescente-albis.*

The hide Olive. Shell oblong, rather swollen, thick, truncated at the base, spire exserted, callous, columella arched, slightly excavated, callous at the upper part, plaited obliquely beneath; yellowish-white or cream-colour, thickly reticulated with brown or blue-brown, the spaces being sometimes interrupted, spire and basal zone unspotted, columella and interior of the aperture bluish-white.

Duclos, Mon. Oliv. pl. 2. f. 13–16.

Hab. Conchagua, Central America (on sand-banks); Cuming.

Distinguished mainly by its callous growth and dense splashy pattern of net-work.

Oliva. Pl. XXVII.
81. a.
82. a.
82. b.
83. a.
84. a.
84. b.
83. b.
85. a.
85. b.
81. b.
Sowerby del et lith.
Reeve & Nichols imp.

OLIVA.

PLATE XXVII.

Species 81. (Fig. *a*, *b*, Mus. Steere.)

OLIVA ORYZA. *Oliv. testâ acuminato-oblongâ, crassiusculâ, spirâ exsertâ, columellâ multiplicatâ; eburneâ, lineis flexuosis fuscescentibus interdum pallidissimè tinctâ, apice nunc cærulescente, nunc rufo-aurantio.*

THE RICE-GRAIN OLIVE. Shell acuminately oblong, rather thick, spire exserted, columella many-plaited; ivory-white, sometimes faintly marked with light brown flexuous lines, apex now bluish, now reddish-orange.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 631.

Hab. ——?

The colouring of the apex seems to be a characteristic feature in this species.

Species 82. (Fig. *a*, *b*, Mus. Steere.)

OLIVA TRITICEA. *Oliv. testâ subfusiformi, spirâ valdè exsertâ, columellâ basi obscurè uniplicatâ, callouo-contortâ; albidâ, rufo-fusco conspicuè tessellatâ et strigatâ.*

THE WHEAT-GRAIN OLIVE. Shell somewhat fusiform, spire much exserted, columella obscurely one-plaited at the base, callously twisted; whitish, conspicuously tessellated and streaked with red-brown.

DUCLOS, Mon. Oliv. pl. 1. f. 3, 4.

Hab. ——?

Distinguished by its elongated form and blotchy tessellated painting.

Species 83. (Fig. *a*, *b*, Mus. Steere.)

OLIVA MODESTA. *Oliv. testâ cylindraceo-oblongâ, apice acuminatâ, columellâ rectâ, multiplicatâ; albidâ, fuscescente latifasciatâ, maculis punctisque fuscis provisciè nebulosè notatâ.*

THE MODEST OLIVE. Shell cylindrically oblong, acuminated at the apex, columella straight, many-plaited; whitish, promiscuously rather obscurely blotched and dotted with brown.

Hab. ——?

The marking of this species bears some little resemblance to that of *O. kaleontina*.

Species 84. (Fig. *a*, *b*, Mus. Steere.)

OLIVA MONILIFERA. *Oliv. testâ subacuminato-oblongâ, spirâ exsertâ, columellâ subarcuatâ, basi multiplicatâ; albâ, rufo-fuscescente e suturis in strigis descendente, deindè densè variegatâ, anfractuum margine superno nitidè castaneo punctato, basi castaneo fasciatâ.*

THE NECKLACE-MARKED OLIVE. Shell somewhat acuminately oblong, spire exserted, columella slightly arched, many-plaited at the base; white, with reddish-brown descending in streaks from the sutures, then thickly variegated, upper edge of the whorls marked with a neat row of chestnut dots, with a dark chestnut band at the base.

Hab. ——?

A shell of rather solid growth, richly streaked and variegated with reddish-brown, whilst the upper edge of the whorls presents a characteristic necklace of chestnut dots.

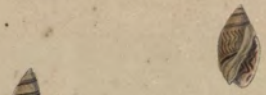
Species 85. (Fig. *a*, *b*, Mus. Steere.)

OLIVA PELLUCIDA. *Oliv. testâ oblongo-ovatâ, tenui, subinflatâ, spirâ exsertâ, columellâ arcuatâ, basi obscurè uni-bi-plicatâ; pellucido-corneâ, lineis undulatis fuscis nitidè pictâ, columellâ basi opacâ, callosâ.*

THE TRANSPARENT OLIVE. Shell oblong-ovate, thin, slightly inflated, spire exserted, columella arched, obscurely one-two-plaited at the base; transparent horny, neatly painted with undulating brown lines, columella opake and callous at the base.

Hab. ——?

Very prettily painted with broadly waved red-brown lines upon a transparent ground.



86. a.

86. b.

86. c.

87. a.

88. a.

88. b.

87. b.

89. a.

89. b.

87. c.

Sowerby del et lith.

Reeve & Nichols imp.

OLIVA.

PLATE XXVIII.

Species 86. (Fig. *a*, *b*, *c*, Mus. Steere.)

OLIVA MUTICA. *Oliv. testâ ovatâ, subcheâ, spirâ brevissimâ, acuminatâ, callosâ, columellâ arcuatâ, obscurè plicatâ, superne valdè callosâ; cinerescente-albâ aut griseâ, lineis nigricante-fuscis plus minus distinctè undulatis, zonâ castaneâ angustâ ad basin.*

THE BEARDLESS OLIVE. Shell ovate, rather stout, spire rather short, acuminated, callous, columella arched, obscurely plaited, very callous at the upper part; ash-white or greyish, more or less distinctly waved with black-brown lines, with a narrow chestnut zone at the base.

SAY, Journ. Acad. Nat. Sci. Phil. vol. ii. p. 228.

Hab. West Indies. South Carolina. Red Sea.

An extremely variable species, with a wide range of habitation. The waved lines are sometimes narrow and close-set, sometimes broader and more distant, and oftentimes they are nearly obscured by a coating of blue-grey.

Species 87. (Fig. *a*, *b*, *c*, Mus. Cuming.)

OLIVA HILLEBRANDTA. *Oliv. testâ abbreviato-ovatâ, superne tumidâ, spirâ brevissimâ, valdè callosâ, columellâ subarcuatâ, basin versus obscurè tenuiplicatâ, superne valdè callosâ; cinereo-fulvescente, undique minutè fusco-punctatâ, punctis majoribus infra suturas, columellâ albâ, maculâ castaneâ tinctâ.*

THE THOUSAND-DOTTED OLIVE. Shell shortly ovate, swollen round the upper part, spire very short, very callous, columella slightly arched, obscurely finely plaited towards the base, very callous at the upper part; ash-fulvous, minutely dotted throughout with brown, dots larger beneath the sutures, columella white, stained with a chestnut blotch.

DUCLOS, Mon. Oliv. pl. 25. f. 1, 2.

Hab. West Indies.

So closely related to *O. nana*, that the two species almost pass one into the other.

Species 88. (Fig. *a*, *b*, Mus. Cuming.)

OLIVA RUFIFASCIATA. *Oliv. testâ ovatâ, obesâ, solidiusculâ, spirâ brevi, acuminatâ, columellâ arcuatâ, obscurè tenuiplicatâ, superne callosâ; albidâ, castaneo-rufo latifasciatâ.*

THE RED-BANDED OLIVE. Shell ovate, stout, rather solid, spire short, acuminated, columella arched, obscurely finely plaited, callous at the upper part; whitish, broadly banded with chestnut-red.

Hab. ——?

This shell agrees very nearly with one figured by M. Duclos as a variety of *O. mutica*, but it differs from that species in formness well as in its plan of colouring.

Species 89. (Fig. *a*, *b*, Mus. Steere.)

OLIVA GUILDINGII. *Oliv. testâ acuminato-oblongâ, spirâ exsertâ, columellâ arcuatâ, tenuiplicatâ; griseo-caerulescente, eziusû fusco strigatâ et punctatâ, anfractuum margine superno lutescente, strigis e suturis descendentibus, apice nigricante.*

GUILDING'S OLIVE. Shell acuminately oblong, spire exserted, columella arched, finely plaited; grey-blue, faintly streaked and dotted with brown, upper edge of the whorls yellowish, with the streaks descending from the sutures, apex blackish.

Hab. Island of St. Vincent's. West Indies.

I dedicate this pretty species to the memory of the Rev. Lansdowne Guilding, by whom it was collected, and to whom we are indebted for so many interesting shells from the same locality.

30. a.

31. a.

31. b.

32. a.

32. b.

32. c.

32. d.

33. a.

33. c.

30. b.

Sowerby, del. et lith.

Reeve & Nicholls, imp.

OLIVA.

PLATE XXIX.

Species 90. (Fig. *a*, *b*, Mus. Steere.)

OLIVA ATTENUATA. *Oliv. testâ ovatâ, basin versus latiusculâ, apicem versus peculiariter acuminatâ, columellâ subarcuatâ, vix plicatâ, superiè callosâ; pellucido-cornea, fusco-rufo latè bifasciatâ.*

THE ATTENUATED OLIVE. Shell ovate, rather broad towards the base, peculiarly acuminated towards the apex, columella slightly arched, scarcely plaited, callous at the upper part; transparent-horny, broadly banded with brown-red.

Hab. —— ?

This species might readily be confounded with the following from the similarity of its texture and painting, but from a comparison of numerous specimens of each I feel assured of their being distinct. The *O. attenuata* is uniformly more attenuated towards the apex and broader at the base, whilst the sutures of the spire are less deeply excavated, and the brown-red bands broader and lower on the shell.

Species 91. (Fig. *a*, *b*, Mus. Steere.)

OLIVA ZONALIS. *Oliv. testâ ovatâ, supra medium tumidiusculâ, spirâ subacuminatâ, columellâ arcuatâ, basi subobscurè uniplicatâ; semipellucido-cornea, fusco-rufo trifasciatâ, maculâ castaneâ supra columellam.*

THE ZONED OLIVE. Shell ovate, rather swollen above the middle, spire slightly acuminated, columella arched, somewhat obscurely one-plaited at the base; semitransparent horny, three-banded with brown-red, with a chestnut blotch at the upper part of the columella.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 631.

Hab. Near Acapulco, Mexico; Humboldt and Bonpland.

The comparative difference in the forms of this and the preceding species is well shown by Mr. Sowerby in the accompanying figures, especially in Fig. 90 *b* and 91 *a*. The conformation of the columella varies slightly, the bands are narrower and three in number, and there is a characteristic dark blotch on the body-whorl above the columella.

Species 92. (Fig. *a*, *b*, *c*, Mus. Cuming; Fig. *d*, Mus. Steere.)

OLIVA FIMBRIATA. *Oliv. testâ ovatâ, superiè tumidiusculâ, spirâ subexsertâ, columellâ arcuatâ, vix plicatâ, plicis callosis; luteo-fuscâ, longitudinaliter obscurè subtilissimè strigatâ, fusciâ pallidâ, reticulo maculatâ, infra suturas.*

THE FRINGE-BORDERED OLIVE. Shell ovate, rather swollen round the upper part, spire somewhat exserted, columella arched, scarcely plaited, plaits callous; yellowish-brown, longitudinally obscurely very finely streaked, encircled beneath the sutures with a pale band, blotched with net-work.

Hab. West Indies.

This little species, which is liable to be confounded with *O. sayana*, has a very characteristic border of fringe-painting round the upper part of the whorls, where it has a brighter enamelled aspect and is more swollen.

Fig. 93 *a*, *b*. (Mus. Metcalfe.)

This little shell proves on further examination to be a delicate discoloured specimen of the zigzag variety of *O. sayana*, represented in Pl. XXVIII. Fig. 86 *b*, *c*.

Sowerby, Ed. et lith.

Roscoe & Nicholls imp.

OLIVA.

PLATE XXX.

Species 94. (Mus. Cuming.)

OLIVA MYRIADINA. *Oliv. testâ subfusiformi-oblongâ, spirâ exsertâ, columellâ brevi, arcuatâ, basi obscurè uniplicatâ; diaphanâ, nitente, semipellucidâ.*

THE MYRIAD OLIVE. Shell somewhat fusiformly oblong, spire exserted, columella short, arched, obscurely one-plaited at the base; ivory-white, shining, semi-pellucid.

DUCLOS, Mon. Oliv. pl. 5. f. 1, 2.

Hab. —— ?

There is no indication of colour or marking in this species, which is of a pure pellucid-white.

Species 95. (Fig. *a*, *b*, Mus. Cuming.)

OLIVA LANCEOLATA. *Oliv. testâ fusiformi-oblongâ, solidiusculâ, spirâ valdè exsertâ, acuminatâ, columellâ arcuatâ, basi calloso-plicatâ, plicis subtilibus, numerosis; albidâ, fusco sparsim tenuissimè lineatâ et seriatim punctatâ, punctis majoribus infra suturas.*

THE LANCEOLATE OLIVE. Shell fusiformly oblong, rather solid, spire much exserted, acuminated, columella arched, callously plicated at the base, plaits fine, numerous; whitish, sparingly very delicately lineated and spotted in rows with brown, the dots being larger beneath the sutures.

Hab. Catanauan, Island of Luzon (in sandy mud at eight fathoms), and Loay, Island of Bohol, Philippines (at the depth of sixty fathoms); Cuming.

A delicately-marked narrow acuminated shell, of rather solid growth.

Species 96. (Fig. *a*, *b*, Mus. Cuming.)

OLIVA BULLULA. *Oliv. testâ acuminato-oblongâ, tenui, subinflatâ, spirâ valdè exsertâ, columellâ arcuatâ, basi subcallosâ; pellucido-albâ, zonâ angustâ opacâ infra suturas.*

THE LITTLE BUBBLE OLIVE. Shell acuminately oblong, thin, rather inflated, spire much exserted, columella arched, rather callous at the base; transparent-white, with a narrow opake zone beneath the sutures.

Hab. West Indies.

Like the smaller *O. myrindina*, this shell is of a thin pellucid substance without colour or marking.

Species 97. (Fig. *a*, *b*, Mus. Metcalfe.)

OLIVA FURA. *Oliv. testâ lanceolato-oblongâ, spirâ valdè exsertâ, columellâ brevi, arcuatâ, basi obscurè biplicatâ; pellucido-albâ, ad suturas roseo-pictâ.*

THE FURE OLIVE. Shell lanceolately oblong, spire very much exserted, columella short, arched, obscurely two-plaited at the base; transparent-white, slightly opake at the sutures.

Hab. —— ?

Like the preceding species this shell is of a pellucid unspotted white, but its proportions are different, being narrower, more acuminated, and more solid.

Species 98. (Fig. *a*, *d*, *b*, Mus. Cuming.)

OLIVA PULCHELLA. *Oliv. testâ acuminato-oblongâ, tumidiusculâ, spirâ exsertâ, columellâ arcuatâ, obscurè uniplicatâ; albidâ, rufo-fusco tenuissimè lineatâ, supra et infra seriatim punctatâ, juxta suturas immaculatâ.*

THE PRETTY OLIVE. Shell acuminately oblong, rather swollen, spire exserted, columella arched, obscurely many-plaited; whitish, very delicately lineated and dotted in rows above and below with red-brown, unstained next the sutures.

DUCLOS, Mon. Oliv. pl. 5. f. 11, 12.

Hab. West Indies.

The painting of this species is very similar to that of *O. lanceolata*, a smaller and more slenderly acuminate shell, but it differs in having spots invariably removed from the sutures.

Species 99. (Mus. Steere.)

OLIVA ROSOLINA. *Oliv. testâ ovatâ, subcentricosâ, Tornatellæformi, spirâ brevi, apice elatâ, columellâ brevi, superiùs callosâ, basi calloso-contortâ; albidâ, lineis flexuosis fuscescentibus eximiè notatâ, basi columellæ intensè roseâ.*

THE ROSE-TIPPED OLIVE. Shell ovate, slightly ventricose, Tornatella-shaped, spire short, raised at the apex, columella short, callous at the upper part, callously twisted at the base; whitish, delicately marked with faint brown flexuous lines, base of the columella deep rosé.

DUCLOS, Mon. Oliv. pl. 1. f. 1, 2.

Hab. West Indies.

Remarkably distinguished from all other species of the genus by its *Tornatella*-like form, and by the rich pink colouring of the base of the columella.

	Plate.	Species.
acuminata, *Lamarck*	XVI.	33
amazon, *Duclos*	XXV.	74
Ancillarioides, *Reeve*	XXI.	55
aquatilis, *Reeve*	XVIII.	38
araneosa, Lamarck	X.	16
Alkenia, Duclos	XXII.	60
attenuata, *Reeve*	XXIX.	90
auricularia, Duclos	XVIII.	38
auricularia, *Lamarck*	XVIII.	39
australis, *Duclos*	XIX.	42
bicincta, Lamarck	XV.	31
biplicata, *Sowerby*	XX.	48
Brasiliensis, *Chemnitz*	VIII.	13
bulliformis, *Duclos*	XIII.	26
bullata, *Reeve*	XXX.	96
cærulea, Wood	XXI.	54
candida, Lamarck	XVII.	34
carnea, *Lamarck*	XXII.	60
Carolineana, Duclos	XIII.	26
cincta, *Reeve*	XIX.	47
cingulata, Chemnitz	VIII.	12
clanophila, Duclos	XVIII.	39
columellaris, *Sowerby*	XXIII.	62
concidella, Lamarck	XXII.	58
contortuplicata, *Reeve*	XX.	51
crenata (*Voluta*), Dillwyn	XIV.	30
Cumingii, *Reeve*	XI.	19
cyanea, *Reeve*	XXIV.	70
dactyliola, Duclos	XIII.	26
dama, Duclos	XXIII.	63
deallata, *Reeve*	XXV.	71
Duclosi, *Reeve*	XIX.	44
eburnea, Lamarck	XXIII.	64
elegans, *Lamarck*	XII.	20
episcopalis, *Lamarck*	XIII.	24
erythrostoma, *Lamarck*	V.	7
Esther, *Duclos*	XXIII.	65
fimbriata, *Reeve*	XXIX.	92
flammulata, *Lamarck*	XIX.	41
fusciola, Duclos	XVII.	34
fulgida, *Reeve*	XXVI.	78
fulminans, Lamarck	VII.	10
funebralis, Lamarck	VII.	10
fusiformis, *Lamarck*	VIII.	11
gibbosa (*Voluta*), Born.	VIII.	12
gracilis, *Brod. & Sow.*	XX.	46
Guildingii, *Reeve*	XXVIII.	89
guttata, Lamarck	XIV.	30
harpularia, *Lamarck*	XIV.	28
histula (*Voluta*), Gmelin	XVIII.	35
hieroglyphica, *Reeve*	XXIV.	68
Indusiea, *Reeve*	XIX.	43
inflata, *Lamarck*	XV.	31
irisans, *Lamarck*	VI.	8
ispidula (*Voluta*), Linnæus	XVII.	34
jaspidea, Duclos	XIX.	44
jaspidea (*Voluta*), Gmelin	XXII.	58
Julieta, *Duclos*	IX.	15
kaleontina, *Duclos*	XX.	49
lanceolata, *Reeve*	XXX.	95
lentiginosa, *Reeve*	XIX.	45
leucophæa, Lamarck	XIV.	30
leucostoma, Duclos	VII.	10
leucozonias, *Gray*	XXIV.	67
ligneola, *Reeve*	XXI.	57
lineolata, *Gray*	XXIII.	63
literata, *Lamarck*	XI.	18
lubrica, Duclos	XIII.	24
luteola, Lamarck	XVI.	33
Macleaya, Duclos	VII.	10
maculata, Duclos	XIV.	30
mantichora, Duclos	XIV.	30
Maura, *Lamarck*	VII.	10
millepunctata, *Duclos*	XXVIII.	87
modesta, *Reeve*	XXVII.	83
monilifera, *Reeve*	XXVII.	84
multiplicata, *Reeve*	XX.	52
mustelina, *Lamarck*	XIII.	23
mutica, *Say*	XXVIII.	86
myriadina, *Duclos*	XXX.	94
nana, *Lamarck*	XXIII.	66
nebulosa, *Lamarck*	XVI.	32

	Plate.	Species.
nedulina, Duclos	XXV.	73
nivea (*Voluta*), Gmelin	XXIII.	64
nobilis, *Reeve*	II.	3
obesina, Duclos	X.	16
Olympiadina, *Duclos*	III.	5
oriola, Lamarck	XVII.	34
oryza, *Lamarck*	XXVII.	81
ozodona, Duclos	XXV.	73
panniculata, *Duclos*	XXVI.	77
patula, Sowerby	XVIII.	39
paxillus, *Reeve*	XXI.	56
pellucida, *Reeve*	XXVII.	85
Peruviana, *Lamarck*	IX.	14
Philantha, Duclos	XII.	22
picta, *Reeve*	XXVI.	79
pindarina, Duclos	X.	16
polpasta, *Duclos*	XIV.	29
ponderosa, *Duclos*	II.	4
pulchella, *Duclos*	XXX.	98
pura, *Reeve*	XXX.	97
pygmæa, *Reeve*	XXVI.	75
reticularis, *Lamarck*	X.	16
rosolina, *Duclos*	XXX.	99
ruffifasciata, *Reeve*	XXVIII.	88
rufula, *Duclos*	XX.	50
sanguinolenta, *Lamarck*	XIII.	25
scripta, *Lamarck*	XIV.	27
semistriata, *Gray*	XXIII.	61
Senegalensis, Lamarck	IX.	14
sepulturalis, Lamarck	VII.	10
splendidula, *Sowerby*	XI.	17
Stainforthii, *Reeve*	XIX.	46
stellata, Duclos	XVII.	34
Steeriæ, *Reeve*	XVIII.	37
strigata, *Reeve*	XXV.	72
subulata, *Lamarck*	XVI.	100
tergina, *Duclos*	XXVI.	80
tessellata, *Lamarck*	XX.	53
testacea, *Lamarck*	XVII.	35
textilina, *Lamarck*	VI.	9
tigridella, Duclos	XVII.	34
tigrina, *Lamarck*	XII.	21
Timoria, Duclos	X.	16
todosina, Duclos	XXII.	60
tremulina, *Lamarck*	IV.	6
tricolor, *Lamarck*	XII.	22
triticea, *Duclos*	XXVII.	83
undata, Lamarck	XV.	31
undatella, *Lamarck*	XXV.	73
utriculus, Chemnitz	VIII.	12
eculata, Duclos	X.	16
volutella, *Lamarck*	XXI.	54
Volvarioides, *Duclos*	XXII.	59
zanoeta, *Duclos*	XXVI.	76
zenopira, *Duclos*	XXIV.	69
zonalis, *Lamarck*	XXIX.	91

ERRATUM.

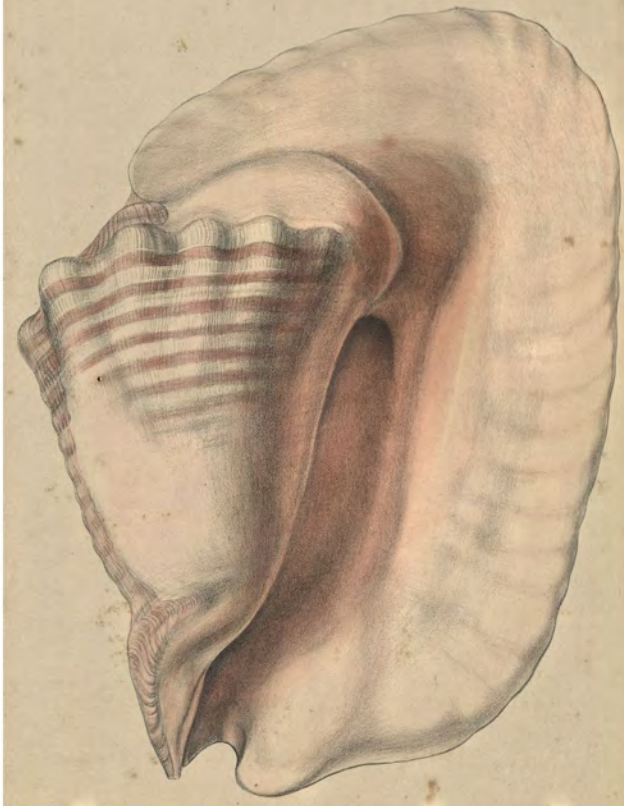
Species 70. For *O. cærulea*, read *O. cyanea*.

MONOGRAPH

OF THE GENUS

STROMBUS.

O! what an endlesse work have I in hand
To count the seas' abundant progeny,
Whose fruitful seede farre passeth those in land,
And also those which wonne in the azure sky.—*Spenser.*



STROMBUS.

PLATE I.

Genus STROMBUS, *Linnæus.*

Testa nunc conica vel ovata, nunc fusiformi-turrita, anfractibus sæpissimè tuberculatis vel nodatis, basi truncatâ vel recurvâ, columellâ lævi, plerumque callosâ, interdum corrugatâ, labro in alam aut simplicem aut lobatam plus minus ampliato, prope basin latè sinuato, aperturâ plerumque corrugatâ, basi emarginatâ. Operculum corneum, parvum, anticè attenuatum.

Shell sometimes conical or ovate, sometimes fusiformly turreted, whorls most frequently tubercled or noduled, truncated or recurved at the base, columella smooth, generally callous, sometimes wrinkled, lip more or less enlarged into a simple or lobed wing, broadly sinuated near the base, aperture mostly wrinkled, emarginated at the base. Operculum horny, small, attenuated anteriorly.

The genus *Strombus* comprises those species of the winged family, *Alata*, in which the expanded wing-like lip is simple, not developed into channelled claws. The shell is convoluted, broad, and compact, with a short spire, as in *S. galeatus*, or with the spire acuminated into a tall pyramid, as in *S. Thersites*. Again, it is strictly conical, as in *S. fasciatus*, or drawn out into an elongated spindle, as in *S. vittatus*. The expanded wing-like lip is the principal seat of specific character. Every species has its peculiar condition of lip, varying in form, sculpture, and colour. The principal variation in the form of the lip is in the upper, or rather hinder, part, which is widely flatly spread, as in *S. Goliath* and *epidromis*; prolonged into a channelled lobe, as in *S. gallus* and *tricornis*; into a short finger-shaped lobe, as in *S. auris-Dianæ* and *Novæ-Zelandiæ*; or crested, as in *S. laciniatus*; whilst in some species, as *S. bulbulus* and *Samarensis*, the lip is expanded in the lower or front part.

The chief peculiarity in the sculpture of this genus lies in the aperture and columella, which are mostly wrinkled or granulated. The *Strombi* are generally heavily tubercled or noduled round the upper part of the whorls, and, as in the Volutes, the tubercles or nodules are more or less developed in different individuals of the same species. The *Strombi* are brilliantly coloured, the most characteristic varieties of colour residing in the aperture, that is, on the columella and on the inner surface of the expanded lip.

The whorls of the shell are not always convoluted symmetrically. In *S. gibberulus* and *Mauritianus*, for example, the spire shows the whorls to be very rudely lodged one upon the other in the process of convolution. The first few whorls of most of the species have a small varix deposited at intervals, but this, instead of increasing in size and regularity with the growth of the shell, as in *Murex* or *Triton*, gradually disappears. The varix is one of those characters which, being a prominent feature in the allied family of *Canalifera*, exists here only in a rudimentary form.

The habitats of all the *Strombi* are known, with the exception of the large *S. Goliath* and the little *S. hæmastoma*. By far the greater portion inhabit the eastern world; twenty-six out of fifty-three species were collected by Mr. Cuming at the Philippine Islands. Of these, two, *S. canarium* and *Sibbaldii*, are found also at Ceylon, and one, *S. rugosus*, was collected by Sir E. Belcher on the shores of Korea. Another Philippine species, *S. floridus*, inhabits also the Society Islands; a fourth, *S. elegans*, is found also on the shores of the Red Sea; and two species, *S. arcens* and *variabilis*, range southward to North Australia. As in the genus *Conus*, the Philippine *Strombi* are all of small size, with the single exception of the fine *S. latissimus*. There are no *Strombi* in the Mediterranean, or in any part of the Atlantic north of the West Indies and Cape de Verd Islands; but a fine species, *S. Japonicus*, of a type inhabiting the Philippine Islands, is recorded from Japan, in the geographic latitude of the southern shores, but in the isothermal latitude of the northern shores, of the Mediterranean. As in the case of many genera which are so abundantly and typically represented among the islands of the Eastern Archipelago, there is no species on either side of South America below the equator, with the singular exception of the fine *S. granulatus* from the Gallapagos Islands. The fine large *S. Peruvianus* is from the Bay of Caraccas. Six species, inhabiting the shores of the West Indies, are all of large size, and one of these, *S. tricornis*, as in the case of the Olives, occurs also in the Red Sea. Another West Indian species, *S. pugilis*, is represented in the Gulf of Mexico adjoining, by the *S. alatus*, and at Panama by *S. gracilior*. The only other American species is the fine large *S. galeatus* from the Gulf of Nicoiya. The only *Strombi* recorded from the African coast are two from Zanzibar, *S. variabilis* and *columba*, one identical in species with the same from the Philippine Islands, the other of a similar type. One species, *S. maculatus*, is reported from the Sandwich Islands;

one, *S. Novæ-Zelandiæ*, from New Zealand; and four, *S. fusiformis*, *deformis*, *Australis*, and *Campbelli*, as being peculiar to Australia.

Species 1. (Mus. Brit.)

STROMBUS GOLIATH. *Stromb. testâ subquadrato-ovatâ, perampla, crassâ, ponderosâ, spirâ brevi, anfractibus transversim biseriatim sulcatis, supernè plicato-tuberculatis, tuberculis rotundatis, obtusis, columellâ callosâ, basi incurvâ, labro in alam rotundatam supra spiram latissimè expanso; albidâ, rufo-fusco apicem versus maculatâ, columellâ et aperturæ fauce luteo et rufescente pallidè tinctis.*

THE GOLIATH STROMBUS. Shell somewhat squarely ovate, very large, thick, ponderous, spire short, whorls transversely grooved in double rows, plicately tuberculed round the upper part, tubercles rounded, obtuse, columella callous, incurved at the base, lip very broadly expanded above the spire into a rounded wing; whitish, spotted towards the apex with red-brown, columella and inferior of the aperture faintly tinged with pink and yellow.

CHEMNITZ, Conch. Cab. vol. xi. p. 147. pl. 195 A.

Hab. —— ?

This is a very distinct species from *S. gigas*, although it partakes in a manner of the character of some of its varieties. The bold lofty expansion of the lip is very characteristic, and it has none of the bright pink colouring of *S. gigas*.

2.

Sowerby del. et lith.

Reeve & Nichols, imp.

STROMBUS.

PLATE II.

Species 2. (Mus. Brit.)

STROMBUS GIGAS. *Stromb. testâ subquadrato-ovatâ, perampl, basin versus contractâ et costatâ, deinde contortâ, spirâ exsertâ, acuminatâ, anfractibus transversim superficialiter sulcatis et rugosis, superne squamato-tuberculatis, tuberculis numerosis, prominentibus, divergentibus, aperturâ perampl, labro late expanso, superne in alam angulatam producto; pallide spadiceâ, epidermide tenuiculâ fuscescente indutâ, columellâ et aperturæ fauce intense roseis.*

THE GIANT STROMBUS. Shell somewhat squarely ovate, very large, contracted and ribbed towards the base, then twisted, spire exserted, acuminated, whorls transversely superficially grooved and rough, squamately tubereled round the upper part, the tubercles being numerous, prominent, divergent, aperture very large, lip broadly expanded, produced at the upper part into an angular wing; light fawn-colour, covered with a rather thin fawn epidermis, columella and interior of the aperture deep pink.

LINNÆUS, Syst. Nat. (12th edit.) p. 1210.

An eadem? *Strombus lucifer*, Linnæus.

Hab. West Indies.

This fine species, which is sometimes imported in large quantities from the West Indies for the use of the cameo artist, is remarkable for the delicate pink colouring of its widely expanded aperture. The tuberculated growth of the spire is also a conspicuous feature; the tubercles are not, however, always quite so prominently developed as in the specimen selected for illustration, which is one of rather small dimensions.

November, 1850.

3.

STROMBUS.

PLATE III.

Species 3. (Mus. Cuming.)

STROMBUS GALEATUS. *Stromb. testâ subquadrato-ovatâ, crassâ, ponderosâ, spirâ brevissimâ, apice acutâ, anfractibus transversim costatis, superne tumidis, rotundatis, leviter canaliculatis, aperturâ subamplâ, labro expanso, crenato; fuscescente, epidermide crassâ olivaceo-brunneâ indutâ, aperturæ fauce albidâ, columellâ labroque rufo-aurantio tinctis.*

THE HELMET STROMBUS. Shell somewhat squarely ovate, whorls transversely ribbed, swollen and rounded at the upper part, slightly channelled, aperture rather large, lip expanded, crenated; brownish, covered with a thick olive-brown epidermis, interior of the aperture whitish, lip and columella tinged with orange-red.

SWAINSON, Philosophical Magazine.

Strombus crenatus, Sowerby (in Tankerville Cat.).

Strombus galea, Wood.

Hab. Gulf of Nicoiya, Central America (on the reefs at low water); Cuming.

The body of this shell is chiefly distinguished by its ventricose conical form, and transversely ribbed structure, the spire being very short but raised at the apex. The lip is boldly expanded, the upper extremity of it being on a plane with the spire, as in some of the *Cassides*. The edge of the lip is crenated in a manner to correspond with the outer ribs. The epidermis is rather stout and of a rich olive-brown colour.

November, 1850.

4.

STROMBUS.

PLATE IV.

Species 4. (Mus. Cuming.)

STROMBUS LATISSIMUS. *Stromb. testâ fusiformi-ovatâ, medio rudè gibbosâ et tuberculatâ, spirâ conicâ, acuminatâ, regulariter nodosâ, anfractibus superne leviter concavis, lævibus, labrum versus radiatim promiscuè liratis, labro ultra spiram latissimè expanso, limbo ad latus peculiariter crassè reflexo; aurantio-fuscâ, longitudinaliter hic illic lineatâ, maculis albis promiscuè interruptâ, aperturæ fauce carneolo-albâ.*

THE VERY BROAD STROMBUS. Shell fusiformly ovate, rudely gibbous and tuberculed in the middle, spire conical, acuminated, regularly noduled, whorls slightly concave round the upper part, smooth, promiscuously radiately ridged towards the lip, which is broadly expanded beyond the spire, edge of the lip peculiarly thickly reflected at the side; orange-brown, here and there longitudinally lineated, interrupted promiscuously with white blotches, interior of the aperture carnelion-white.

LINNÆUS, Syst. Nat. (12th edit.) p. 1211.

Pterocera alata, Schumacher.

Hab. Matnog, Island of Luzon, Philippines (on the reefs at low water); Cuming.

The chief peculiarity of this species consists in the curious manner in which the widely expanded lip is reflected inwards at the side, and which is only slightly indicted in any other. Although known to Linnæus, the *S. latissimus* is still of rare occurrence.

November, 1850.

5. a.

5. b.

6.

7. a.

7. b.

Sowerby, del. et lith.

Rowe & Nichols imp.

STROMBUS.

PLATE V.

Species 5. (Mus. Saul.)

STROMBUS HEMASTOMA. *Stromb. testâ acuminato-oblongâ, hic illic conspicuè et subrotundè varicosâ, anfractibus transversim crebernè elevato-lineatis, longitudinaliter plicatis, superiè irregulariter tuberculatis, costâ tenuiori pone labrum, columellâ tenuè corrugatâ, apertura pare, labro subincrassato, intus tenuè corrugato, sinu angulo albido, columellâ intensè roseâ.*

THE RED-MOUTH STROMBUS. Shell acuminately oblong, here and there conspicuously and somewhat rudely varicose, whorls transversely very closely lineated, lines raised, longitudinally plicated, irregularly tubercled at the upper part, with a swollen rib behind the lip, columella finely wrinkled, aperture small, lip rather thickened, finely wrinkled within, sinus large; whitish, columella very deep pink.

SOWERBY, Thesaurus Conch. p. 31. pl. 7. f. 51.

An eadem? *Strombus Hellii*, Rousseau.

Hab. —— ?

A small stout species, of which the accompanying figure is a magnified representation. It is strongly varicose, and the sinus of the lip is unusually distinct. The aperture is very much contracted, with the columella of an intense rose-colour.

Species 6. (Mus. Cuming.)

STROMBUS PERUVIANUS. *Stromb. testâ subtrigonâ, crassâ, ponderosâ, basi contorto-recurvâ, spirâ depressiusculâ, apicem versus acuminatâ, anfractibus spiraliter costatis, superiè obtusè angulatis, ad angulos tuberculatis, tuberculo mediano dorsali valdè prominente, labro ampliter trigono-dilatato, superiè sublobato, columellâ superiè corrugatâ; fuscescente-castaneâ, interdùm submarmoratâ, columellâ et apertura fauce carneolo-rufis.*

THE PERUVIAN STROMBUS. Shell somewhat triangular, thick, ponderous, recurved in a twisted manner at the base, spire rather depressed, acuminated towards the apex, whorls spirally ribbed, obtusely angled at the upper part, tubercled at the angle, middle dorsal tubercle very prominent, lip largely triangularly dilated, slightly lobed above, columella wrinkled at the upper part; yellowish-chestnut, sometimes a little marbled, columella and interior of the aperture carnelion-red.

SWAINSON, Zool. Illus. Second Series, vol. i. pl. 39.

Hab. Bay of Caracccas, West Columbia (on the reefs at low water); Cuming.

This fine species is remarkable for the triangular dilatation of the lip, and for its general massive structure, the columella and interior of the aperture being of a deep carnelion-rouge colour. Several fine specimens were collected by Mr. Cuming in the above-named locality.

Species 7. (Fig. *a*, *b*, Mus. Cuming.)

STROMBUS FUSIFORMIS. *Stromb. testâ fusiformi, spirâ valdè acuminatâ, apicem versus varicosâ, anfractibus juxta suturas marginatis, lævibus, ultimo basi et pone labrum radiatim lirato, labro subincrassato, ad suturam anfractûs penultimi porrecto, intus corrugato, columellâ tenuè corrugatâ; albâ, rufo-fuscescente interruptè fasciatâ et marmoratâ, aperturæ fauce pallidè coccineâ.*

THE FUSIFORM STROMBUS. Shell fusiform, spire much acuminated, varicose towards the apex, whorls margined next the sutures, smooth, last whorl ridged at the base, and, in a rayed manner, behind the lip, lip rather thickened, reaching up to the suture of the penultimate whorl, wrinkled within, columella finely wrinkled; white, banded and marbled in an interrupted manner with red-brown, interior of the aperture tinged with scarlet.

SOWERBY, Thesaurus Conch. p. 31. pl. 9. f. 91, 92.

Hab. North Australia; Jukes.

An extremely interesting species, partaking of the characters of *Rostellaria*, inasmuch as the lip reaches over the body-whorl to the suture of the one preceding. The localities Red Sea and Indian Ocean, given, without authority, by M. Deshayes, are probably erroneous, the specimen here figured being collected by Mr. Jukes in H.M.S. Fly, at North Australia.

8. a.

8. b.

9.

10. a.

10. b.

Sowerby del. et lith.

Reeve & Nichols, imp.

STROMBUS.

PLATE VI.

Species 8. (Fig. *a*, *b*, Mus. Cuming.)

STROMBUS BULBULUS. *Stromb. testâ oblongo-cylindraceâ, Terebelliformi, spirâ breviusculâ, peculiariter gibboso-tumidâ, ad apicem tenuivaricosâ, anfractibus lævibus, politis, ultimo basi inciso-sulcato, labro subinflexo, intus tenuè corrugato; albidâ aut flavicante, castaneo-rufescente pulchrè marmoratâ, columellâ et aperturæ fauce purpureo-nigricantibus.*

THE LITTLE-BULB STROMBUS. Shell oblong-cylindrical, Terebellum-shaped, spire rather short, peculiarly gibbously swollen, finely varicose at the apex, whorls smooth, polished, last whorl sharply grooved at the base, lip slightly inflected, finely wrinkled within; whitish or yellowish, prettily marbled with light chestnut-red, columella and interior of the aperture purple-black.

SOWERBY, Pro. Zool. Soc. 1842, p. 144.

Hab. Island of Ticao, Philippines (on the reefs); Cuming.

Mainly characterized by the swollen appearance of the penultimate whorl, in which respect the species partakes of the character of *S. gibberulus*.

Species 9. (Mus. Cuming.)

STROMBUS THERSITES. *Stromb. testâ oblongo-ovatâ, crassâ, ponderosâ, spirâ peculiariter pyramidali-acuminatâ, acutè nodosâ, anfractibus obsoletè spiraliter costatis, supernè concavis, deinde tuberculato-nodatis, nodis in anfractu ultimo gibbosis, ferè evanidis, aperturâ subquadrato-oblongâ, labro supra columellam subampliter dilatato, valdè incrassato, sinu conspicuo; albidâ, rufo-fusco purpureo-umbratâ, variè nebulatâ, columellâ et aperturæ fauce pallidè carneolis, labro ustulato-fusco pallidè maculato.*

THE THERSITES STROMBUS. Shell oblong-ovate, thick, ponderous, spire peculiarly pyramidally acuminated, sharply nodose, whorls obsoletely spirally ribbed, concave round the upper part, then tubercularly noduled, nodules gibbous and almost faded in the last whorl, aperture somewhat squarely oblong, lip rather largely dilated above the columella, much thickened, with the sinus conspicuous; whitish, variously clouded with purple-shaded red-brown, columella and interior of the aperture pale carnelion, lip blotched with pale burnt-brown.

GRAY, Sow. Thesaurus Conch. pl. 33. pl. 10. f. 109.

Hab. Society Islands (on the reefs); Cuming.

This fine species, of which only two or three examples are known, is remarkably distinguished by the sharply noduled pyramidal elevation of the spire. The lip is very boldly dilated and the purple-shaded marking of the body-whorl is peculiar.

Species 10. (Fig. *a*, *b*, Mus. Cuming.)

STROMBUS TEREBELLATUS. *Stromb. testâ oblongo-cylindraceâ, basi truncatâ, Terebelliformi, subinflatâ, spirâ exsertâ, tumidiusculâ, anfractibus lævibus, politis, ultimo pone labrum tumido, quasi varicoso, columellâ subarcuatâ, aperturæ fauce tenuè corrugatâ; flavicante-albâ, rufo-castaneo pulchrè nebulatâ et variegatâ, rugis aperturæ faucis purpureo-rufis.*

THE AWL-SHAPED STROMBUS. Shell oblong-cylindrical, truncated at the base, Terebellum-shaped, rather inflated, spire exserted, rather swollen, whorls smooth, polished, last whorl swollen as if varicose, columella slightly arched, interior of the aperture finely wrinkled; yellowish-white, prettily clouded and variegated with red-chestnut, wrinkles of the interior of the aperture purple-red.

SOWERBY, Thesaurus Conch. p. 31. pl. 9. f. 84, 85.

Hab. Island of Ticao, Philippines (on the reefs); Cuming.

The aperture of this species is peculiarly carved with coloured wrinkles, not extending to the lip as in *S. bulbulus*.

December, 1850.

H. a.

H. b.

12.

H. c.

H. d.

Reeve & Nicholls, imp

STROMBUS.

PLATE VII.

Species 11. (Fig. *a*, *b*, Mus. Cuming; Fig. *c*, *d*, Mus. Saul.)

STROMBUS FLORIDUS. *Stromb. testâ oblongo-ovatâ, incrassatâ, basi inciso-sulcatâ, spirâ plerumque brevissimâ, interdum exsertâ, anfractibus spiraliter subtiliter liratis et lineatis, superne gibbosis, juxta suturas marginatis, deinde obtusè angulatis, ad angulum obliquè tuberculatis, tuberculis interdum ferè evanidis, columellâ leviusculâ-incrassatâ, undique tenuè corrugatâ, aperturâ oblongâ, fauce tenuè corrugatâ, labro incrassato, superne subdilatato, quasi tuberculum formante; albidâ, flavicante interdum tinctâ, aurantio-fusco vel purpureo-nigro variè maculatâ aut strigatâ, aperturæ fauce pallidè coccineo-roseâ.*

THE FLOWERY STROMBUS. Shell oblong-ovate, thickened, sharply grooved at the base, spire generally rather sharp, sometimes exserted, whorls spirally finely ridged and lineated, margined next the sutures, then obtusely angled, obliquely tubercled at the angle, tubercles sometimes fading away, columella luminately thickened, finely wrinkled throughout, aperture oblong, interior finely wrinkled, lip thickened, slightly dilated at the upper part, as if to form a tubercle; whitish, sometimes yellow-stained, variously blotched or streaked with orange-brown or purple-black, interior of the aperture delicate scarlet-pink.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 707. *Strombus undabilis*, Swainson.

Hab. Island of Ticao and Bohol, Philippines, and Society Islands (on the reefs); Cuming.

This species, as Mr. Swainson's name for it indicates, is very changeable both in form and colouring. Its characters of sculpture are constant. The spire is mostly rather short, but sometimes it is elongated as in the specimen represented at Fig. 11 *c*, *d*. The more acuminated the spire is in this genus, the more noduled it is. This peculiarity is well illustrated in the specimens of *S. floridus* represented in the accompanying plate, and we have a remarkable instance of the attenuated nodulous spire in *S. Thersites* of the preceding plate. In *S. floridus* the columellar lamina is unusually thickened, and the outer lip is callously dilated where it joins this on the body-whorl, as if to form a tubercle.

Species 12. (Mus. Brit.)

STROMBUS ACCIPITRINUS. *Stromb. testâ subquadrato-ovatâ, obesâ, crassâ, ponderosâ, basi abruptè recurvâ, spirâ brevi, acutâ, spiraliter multiliratâ, obscurè nodosâ, anfractibus radiatim undulatelo costatis, superne depresso-concavis, ad angulum nodoso-tuberculatis, tuberculis dorsalibus anfractûs ultimi permagnis, columellâ callosâ, labro angulatè dilatato, sæpè valdè incrassato; spadiceo-albâ, interdum rufo-fasciatâ, epidermide tenui fuscâ indutâ, columellâ et aperturæ fauce albis, interdum rufescentibus.*

THE HAWK-WING STROMBUS. Shell somewhat squarely ovate, stout, thick, ponderous, abruptly recurved at the base, spire short, sharp, spirally many-ridged, obscurely nodose, whorls radiately rather obscurely ribbed, depressly concave round the upper part, nodosely tubercled at the angle, dorsal tubercles of the last whorl very large, columella callous, lip angularly dilated, often very much thickened; fawn-white, sometimes faintly red-banded, covered with a thin brown epidermis, columella and interior of the aperture reddish or white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 687. Eadem var. *Strombus inermis*, Swainson.

Strombus costatus, Gmelin (not of Da Costa).

Hab. West Indies.

Distinguished by its compact massive form and noduled spire, which, though short, is always sharply acuminated. The specimen here figured from the British Museum is tinged with red, but the species is mostly white, sometimes acquiring with age a dark metallic hue.

13. a.

13. b.

14.

15. a.

15. b.

STROMBUS.

PLATE VIII.

Species 13. (Fig. *a*, Mus. Cuming.)

STROMBUS RUPPELLII. *Stromb. testâ oblongo-fusiformi, spirâ acuminato-turritâ, anfractibus superne concavo-depressis, subangulatis, ad angulum plicato-tuberculatis, tuberculis numerosis, anfractu ultimo pone labrum longitudinaliter costato et radiatim tenuilirato, columellâ incrassatâ, laminatâ, superne subtiliter corrugatâ, aperturæ fauce corrugatâ; flavicante-albâ, ustulato-fusco hic illic tinctâ et fasciatâ, labro purpureo-fusco, fascia angustâ albis radiato, columellâ et aperturæ fauce intense purpureo-fuscis.*

RUPPELL'S STROMBUS. Shell oblong-fusiform, spire acuminately turreted, whorls concavely depressed round the upper part, slightly angled, plicately tubercled on the angle, tubercles numerous, last whorl ribbed longitudinally behind the lip and radiately finely ridged, columella thickened, laminated, finely wrinkled at the upper part, interior of the aperture wrinkled; yellowish-white, stained and banded here and there with burnt-brown, lip purple-brown, rayed with narrow white bands, columella and interior of the aperture rich purple-brown.

Hab. Red Sea; Ruppell.

An acuminately turreted species, closely plicately ribbed, in which the swollen longitudinal rib behind the lip is characterized by a purple-brown colouring crossed with narrow white rays.

The shell represented at Fig. 13 *b* is in bad condition, and can scarcely be referred to this species without doubt.

Fig. 14. (Mus. Brit.)

STROMBUS ACCIPITRINUS, var. This shell is the *S. inermis* of Swainson in the Bligh Catalogue, and of Sowerby in Thesaurus Conchyliorum, but on comparison with *S. accipitrinus* I find it to be merely a state of that species in which the shell is of lighter growth, the spire more acuminated, and the tubercles smaller and more regular. The detail of sculpture is alike in both varieties.

Species 15. (Fig. *a*, *b*, Mus. Cuming.)

STROMBUS GIBBERULUS. *Stromb. testâ oblongo-conicâ, basin versus attenuatâ, spirâ exsertâ, acutâ, anfractibus superne inæqualiter gibbosis, quasi distortis, hic illic varicosis, juxta suturas marginatis, transversim variè striatis et liratis, nonnunquam partim lævigatis, columellâ lævigatâ, aperturæ fauce sæpissimè tenuè corrugatâ; albidâ aut flavicante, rufo-fusco interdum antem varè fasciatâ, columellâ et aperturæ fauce nunc roseis, nunc purpureis aut violaceis.*

THE HUNCH-BACKED STROMBUS. Shell oblong-conical, attenuated towards the base, spire exserted, sharp, whorls unequally gibbous, as though distorted, here and there varicose, margined next the sutures, transversely variously ridged and striated, sometimes partially smooth, columella smooth, interior of the aperture most frequently finely wrinkled; whitish or yellowish, sometimes, but rarely, banded with mottled red-brown, columella and interior of the aperture sometimes pink, sometimes purple or violet.

LINNÆUS, Syst. Nat. (12th edit.) p. 1210.

Hab. Philippine Islands (in sand at low water), and Society Islands (on the coral reefs); Cuming. Red Sea; Forshal.

This well-known gibbously distorted species has a wide geographical range in the eastern and east-Pacific Seas, varying considerably in colour, but constant in its peculiarity of forms.

16.

17.

18.

19.

20.

STROMBUS.

PLATE IX.

Species 16. (Mus. Belcher.)

STROMBUS RUGOSUS. *Stromb. testâ fusiformi-oblongâ, spirâ turritâ, anfractibus spiraliter creberrimè liratis, superiè rotundato-angulatis, ad angulum lamidiuiculis et plicato-costatis, costis corrugatis, anfractu ultimo costâ lævissimâ prominente pone labrum, columellâ crassè laminatâ, aperturæ fauce subtilissimè corrugatâ; albidâ, nebulato-fusco tinctâ et fasciatâ, columellâ et aperturæ fauce albis.*

THE WRINKLED STROMBUS. Shell fusiformly oblong, spire turreted, whorls spirally very closely ridged, rotundately angled, rather swollen and plicately ribbed at the angle, ribs corrugate, last whorl with a prominent swollen rib behind the lip, columella thickly laminated, interior of the aperture very finely wrinkled; whitish, stained and banded with burnt brown, columella and interior of the aperture white.

SOWERBY, Tankerville Catalogue, App. p. XX.

Strombus corrugatus, Adams and Reeve.

Hab. Korea; Belcher.

Mr. Sowerby's description of this species in the Appendix to the Tankerville Catalogue was overlooked by Mr. Adams and myself, when occupied with the Mollusca of the Voyage of the Samarang.

Species 17. (Mus. Cuming.)

STROMBUS DENTATUS. *Stromb. testâ fusiformi-oblongâ, spirâ turritâ, anfractibus spiraliter creberrimè tenuiliratis, superiè angulatis, ad angulum confertim plicato-costatis, costis anticis basin versus descendentibus, labrum versus gradatim compresso-tuberculatis, columellâ crassè laminatâ, labro incrassato, aperturæ fauce subtilissimè corrugatâ; griseo-albidâ, nigro-punctatâ, zonulis angustis albis cingulatâ, columellâ aurantiâ, aperturæ fauce purpureo-aurantiâ.*

THE TOOTHED STROMBUS. Shell fusiformly oblong, spire turreted, whorls spirally very closely finely ridged, angled at the upper part, closely plicately ribbed at the angle, front ribs descending towards the base, gradually compressly tubercled towards the lip, columella thickly laminated, lip thickened, interior of the aperture finely wrinkled; greyish-white, black-speckled, encircled with narrow white zones, columella orange, interior of the aperture purple-orange.

LINNÆUS, Syst. Nat. (12th edit.) p. 1213.

Strombus plicatus, Lamarck.

Hab. Island of Ticao, Philippines (on the reefs); Cuming.

In the absence of a dentated lip, the compressed dorsal tubercles may probably have suggested the name by which Linnæus distinguished this species.

Species 18. (Mus. Cuming.)

STROMBUS GALLUS. *Stromb. testâ oblongâ, lasi attenuatâ et contortâ, spirâ exsertâ, conicâ, anfractibus spiraliter striatis et costatis, superiè concavis et angulatis, ad angulum nodoso-tuberculatis, tuberculis dorsalibus prominentibus, compressis, columellâ callosâ, labro latè expanso, superiè in lobum attenuatum producto; flavicante-albâ, rufo-fusco nebulatâ et variegatâ, columellâ et aperturæ fauce pallidè carneolis.*

THE ANGEL'S WING STROMBUS. Shell oblong, attenuated and twisted at the base, spire exserted, conical, whorls spirally striated and ribbed, concave and angled at the upper part, nodosely tubercled at the angle, dorsal tubercles prominent, compressed, columella callous, lip broadly expanded, produced at the upper part into an attenuated lobe; yellowish-white, clouded and variegated with red-brown, columella and interior of the aperture pale carnelian.

LINNÆUS, Syst. Nat. (12th edit.) p. 1209.

Hab. Red Sea; Earl Mountnorris.

This well-known species varies little except in the prolongation of its characteristic lobe. It exhibits scarcely any change of colour.

Species 19. (Mus. Cuming.)

STROMBUS LUHUANUS. *Stromb. testâ conicâ, solidiusculâ, spirâ brevi, inerui, anfractibus lævibus, subrudè convolutis, obtusè angulatis, columellâ rectâ, lævi, aperturâ augustâ, labro vix incrassato vel expanso, superiè latè sinuato; albidâ, rufo-fusco variegatâ, columellâ intensè purpureo-nigrâ, aperturæ fauce intensè rufâ.*

THE LUHU STROMBUS. Shell conical, rather solid, spire short, smooth, whorls smooth, somewhat rudely convoluted, obtusely angled, columella straight, smooth, aperture narrow, lip but little thickened or expanded, broadly sinuated at the upper part; whitish, variegated with red-brown, columella intense purple-black, interior of the aperture deep red.

LINNÆUS, Syst. Nat. (12th edit.) p. 1209.

Hab. Island of Bohol, Philippines (on sand banks on the reefs); Cuming.

This species is remarkably characterized by the intense purple-black colouring of the columella.

Species 20. (Mus. Saul.)

STROMBUS MAURITIANUS. *Stromb. testâ oblongo-conicâ, solidiusculâ, spirâ subexsertâ, plicato-costatâ, costis in anfractu ultimo evanidis, anfractibus lævibus, superne rotundatis, columellâ rectâ, lævi, labro vix incrassato vel expanso, superne sinuato; albâ, maculis interruptis aurantio-fuscis fasciatâ, columellâ albâ, aperturæ fauce carneolo-rosaceâ.*

THE MAURITIUS STROMBUS. Shell oblong-conical, rather solid, spire rather exserted, plicately ribbed, ribs disappearing on the last whorl, whorls smooth, rounded at the upper part, columella straight, smooth, lip but little thickened or expanded, sinuated at the upper part; white, banded with interrupted orange-brown blotches, columella white, interior of the aperture flesh-pink.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 699. *Strombus cylindricus*, Swainson.

Hab. Mauritius.

Constantly distinguished from the preceding species by its more cylindrically conical form and plicately ribbed spire, and by the absence of colour on the columella. The colour of the interior is a paler flesh-pink.

Pl. a.

Pl. b.

Pl.

Pl. c.

Pl. d.

Bowerbank, del. et lith.

Reeve & Nichols, imp.

STROMBUS.

PLATE X.

Species 21. (Fig. *a*, *b*, *c*, *d*, Mus. Cuming.)

STROMBUS VARIABILIS. *Stromb. testâ ovatâ, spirâ exsertâ, turritâ, varicosâ, anfractibus lævibus, basi sulcatis, superne declivibus et angulatis, ad angulum nodosis, columellâ callosâ, medio tumidiusculâ, labro incrassato, subalato, superne sinuato; albâ, aurantio-fusco variè strigatâ aut fasciatâ, columellâ maculâ purpureâ amplâ interdum tinctâ.*

THE VARIABLE STROMBUS. Shell ovate, spire exserted, turreted, varicose, whorls smooth, grooved at the base, slanting and angled at the upper part, nodose at the angle, columnella callous, rather swollen in the middle, lip thickened, slightly winged, sinuated at the upper part; white, variously streaked and banded with orange-brown, columella sometimes stained with a large purple blotch.

SWAINSON, Sowerby Thes. Conch.

Hab. Fig. *a*, Darilley's Island, North Australia; Jukes. Fig. *b* and *d*, Island of Ticao, Philippines; Cuming. Fig. *c*, Zanzibar, East Africa; Thorne.

This species has a wide range of habitation and considerable local variety of colouring. It is remarkably constant in form, and is well distinguished by its turreted nodulous spire, slightly alate expansion of the lip, and swollen callosity of the columella.

Species 22. (Mus. Metcalfe.)

STROMBUS TRICORNIS. *Stromb. testâ ovatâ, subtrigonâ, spirâ conicâ, anfractibus spiraliter striatis et liratis, superne concavis et nodoso-tuberculatis, tuberculis tribus dorsalibus perampliis, prominentibus, columellâ callosâ, labro incrassato, trigono-expanso, superne in acumen elongatum producto; flavicante-albâ, epidermide crassiusculâ indutâ, columellâ et aperturæ fauce purpurascente-carneolis.*

THE THREE-HORNED STROMBUS. Shell ovate, somewhat triangular, spire conical, whorls spirally striated and ridged, concave and nodosely tubercled round the upper part, the three dorsal tubercles very large and prominent, columella callous, lip thickened, triangularly expanded, produced above into a point; yellowish-white, covered with a rather thick epidermis, columella and interior of the aperture purplish-flesh.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 689.

Hab. Red Sea; Metcalfe. West Indies; Lamarck.

The specimen here figured from Mr. Metcalfe's collection was received with several others from the Red Sea, along with *Magilus*, *Pedum*, and other genera peculiar to that locality, and if the habitat, West Indies, given by Humphreys and Lamarck, be correct, we have a remarkable coincidence of an observation in genus *Olive*,—that the only two species inhabiting the Red Sea are identical with two in the West Indies.

23.

24. a.

25.

24. b.

24. c.

Sowerby, del. et lith.

Lucas & Nicholls, imp.

STROMBUS.

PLATE XI.

Species 23. (Mus. Cuming.)

STROMBUS MACULATUS. *Stromb. testâ subquadrato-ovatâ, cramiusculâ, spirâ brevi, acutâ, subcaricosâ, anfractibus spiraliter striatis, superne gibboso-tumidis, subtus convolutis, basin versus contractis, columellâ et aperturæ fauce tenuè corrugatis; albâ, rufo-fusco lentiginosâ, maculisque nigricantibus interruptè fasciatâ, columellâ et aperturæ fauce albis.*

THE BLOTCHED STROMBUS. Shell somewhat squarely ovate, rather thick, spire short, sharp, slightly varicose, whorls spirally striated, gibbously swollen round the upper part, somewhat rudely convoluted, contracted towards the base, columella and interior of the aperture finely wrinkled; white, freckled with red-brown, and banded in an interrupted manner with blackish blotches, columella and interior of the aperture white.

NUTTALL, Sowerby Thesaurus Conch. p. 30. pl. 7. f. 53.

Hab. Sandwich Islands; Nuttall.

This species is well characterized by the swollen gibbous development of the whorls next the sutures.

Species 24. (Fig. *a*, *b*, *c*, Mus. Cuming.)

STROMBUS URCEUS. *Stromb. testâ subfusiformi-oblongâ, spirâ exsertâ, turritâ, plerumque varicosâ, anfractibus spiraliter striatis, basi tenuè sulcatis, superne declivibus, obtusè angulatis, ad angulum nodoso-tuberculatis, columellâ laminatâ, partim corrugatâ, aperturâ oblongâ, subangulatâ, intus densè subtilissimè corrugatâ; albidâ aut rufescente, griseo-fusco vittatâ et variegatâ, columellâ et aperturæ fauce sæpissimè intensè purpureo-nigricantibus, interdum rufo vel aurantio tinctis.*

THE PITCHER STROMBUS. Shell somewhat fusiformly oblong, spire exserted, turreted, mostly varicose, whorls spirally striated, finely grooved at the base, slanting round the upper part, obtusely angled, nodosely tuberculed at the angle, columella laminated, partially wrinkled, aperture oblong, rather narrow, densely finely wrinkled within; whitish or reddish, filleted and variegated with grey-brown, columella and interior of the aperture generally intense purple-black, sometimes tinged with red or orange.

LINNÆUS, Syst. Nat. (12th edit.) p. 1212.

Canarium ustulatum, Schumacher.

Hab. Island of Ticao, Philippines (on the reefs); Cuming. Australia.

This species may generally be recognized by the dark purple-black colouring of the columella and aperture, which in some specimens is, however, only partially indicated.

Species 25. (Mus. Cuming.)

STROMBUS LACINIATUS. *Stromb. testâ ovatâ, spirâ exsertâ et conspicuè nodoso-tuberculatâ, anfractibus spiraliter striatis, ultimo fortiter tuberculato, pone labrum radiatim costato, columellâ callosâ, labro latè dilatato, superne usque ad apicem producto, peculiariter cristato, latere crassè replicato; albidâ, aurantio-fusco pulcherrimè variegatâ, aperturæ fauce intensè rufo-purpureâ.*

THE CRESTED STROMBUS. Shell ovate, with the spire exserted and conspicuously nodosely tubercled, whorls spirally striated, last whorl strongly tubercled, radiately ribbed behind the lip, columella callous, lip broadly dilated, produced at the upper part as far as the spire, peculiarly crested, side thickly folded in; whitish, beautifully variegated with orange-brown, interior of the aperture deep crimson-purple.

CHEMNITZ, Conch. Cab. vol. x. p. 223. pl. 158. f. 1506, 7.

Strombus cristatus, Lamarck.

Hab. Islands of Negros and Ticao, Philippines (in coarse black sand at a depth of about eleven fathoms); Cuming.

There is little or no variation in the form or colour of this beautiful species, the finely dilated lip being always crested next the apex, while the interior of the aperture is remarkable for its very deep crimson-purple enamel.

26. a.

26. b.

27.

28. a.

28. b.

Sowerby, del. et lith.

Reeve & Nicholls, imp.

STROMBUS.

PLATE XII.

Species 26. (Mus. Saul.)

STROMBUS COLUMBA. *Stromb. testâ ovatâ, subfusiformi, spirâ acutè exsertâ, turritâ, apicem versus varicosâ, anfractibus conspicuè marginatis, anfractibus spiraliter striatis, pone labrum radiatim liratis, superiùs obtusè angulatis, ad angulum plicato-nodatis, columellâ callosâ, tuxidiâ, corrugatâ, labro alato, longitudinaliter plicato, margine incrassato, supra anfractus penultimum producto, aperturæ fauce undique fortiter corrugatâ; albidâ, aurantio-fusco variegatâ et fasciatâ, columellâ et aperturæ fauce intensè purpureo tinctis.*

THE DOVE STROMBUS. Shell ovate, somewhat fusiform, spire sharply exserted, turreted, varicose towards the apex, sutures conspicuously margined, whorls spirally striated, radiately ridged behind the lip, obtusely angled at the upper part, plicately noduled at the angle, columella callous, swollen, wrinkled, lip winged, longitudinally plicated, margin thickened, produced above the penultimate whorl, interior of the aperture strongly wrinkled throughout; whitish, variegated and banded with orange-brown, columella and interior of the aperture stained with purple.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 702. *Strombus Tankervillii*, Swainson.

Hab. Zanzibar; Thorne.

Distinguished by its carved turreted spire and richly purple-wrinkled aperture.

Species 27. (Mus. Brit.)

STROMBUS BUBONIUS. *Stromb. testâ ovatâ, subrudè convolutâ, spirâ breviusculâ, sulcatâ et striatâ, hic illic varicosâ, spice acutâ, anfractibus breviusculis, superiùs concavis, irregulariter supra et infrà nodatis, nodis nunc ferè evanidis, nunc fortiter tuberculatis, columellâ lævigatâ, aperturâ oblongâ, labro vix dilatato; roseo-fuscâ, roseo fasciatâ, maculis strigisque albis variegatâ.*

THE OWL-WINGED STROMBUS. Shell ovate, somewhat rudely convoluted, spire rather short, grooved and striated, here and there varicose, spire sharp, whorls rather smooth, concave round the upper part, irregularly nodose above and below, nodules sometimes nearly faded, sometimes strongly tubercled, columella smooth, aperture oblong, lip but little dilated; rose-brown, banded with rose, and variegated with white spots and streaks.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 692. *Strombus fasciatus, pars*, Gmelin (not of Born).

Eadem var. *Strombus dilatatus*, Lamarck.

Hab. West Indies. Porto Praya, Cape de Verd Islands; Capt. Graves.

This species is remarkable for its variegated rose painting, and for the unequal development of the tubercles.

Species 28. (Mus. Cuming.)

STROMBUS SWAINSONI. *Stromb. testâ fusiformi-ovatâ, spirâ acuminato-turritâ, anfractibus undique spiraliter striatis, superiùs rotundatis et subtilissimè plicatis, plicis in anfractu ultimo subnodosis, aulicè evanidis, columellâ callosâ, tuxidiusculâ, supra et infrà corrugatâ, labro alato, margine acutè dilatato, supra anfractus penultimum producto, aperturæ fauce peculiariter densè corrugatâ; albidâ, aurantio-fusco tinctâ, zonulis augustis albis subobscurè cingulatâ, spirâ pallidè roseâ, columellâ albâ, aperturæ fauce intensè purpureo lineatâ.*

SWAINSON'S STROMBUS. Shell fusiformly ovate, spire acuminately turreted, whorls being spirally striated throughout, rounded at the upper part and very finely plicated, the plaits becoming subnodose on the last whorl, but absent on the front, columella callous, rather swollen, wrinkled above and below, lip winged, edge sharply dilated, produced over the penultimate whorl, interior of the aperture peculiarly thickly wrinkled; whitish, stained with orange-brown, encircled with somewhat obscure narrow white zones, spire tinged with pink, columella white, interior of the aperture lineated with dark purple.

Strombus dilatatus, Swainson (not of Lamarck) Zoological Illus. 1820.

Hab. ——?

Distinguished from *S. columba* by the finer plicated sculpture of the spire, sharply dilated *lip*, and peculiar wrinkling of the aperture.

29.

30. *a.*

30. *b.*

31.

STROMBUS.

PLATE XIII.

Species 29. (MUS. SAUL.)

STROMBUS PAPILIO. *Stromb. testâ ovatâ, spirâ breviusculâ, apice acutâ, anfractibus transversim tenuè liratis et striatis, undique papilloso-nodatis, supernè planoconcavis, ad angulum fortiter tuberculatis, columellâ callosâ, lævi, labro spiraw versus producto, parum expanso, supernè latè sinuato, aperturæ fauce tenuè corrugatâ; albidâ, fusco sparsim lineatâ et maculatâ, columellâ pallidè carneolâ, aperturæ fauce intensè purpureo-nigricante.*

THE BUTTERFLY STROMBUS. Shell ovate, spire rather short, sharp at the apex, whorls transversely finely ridged and striated, papillosely noduled throughout, flatly concave round the upper part, strongly tubercled at the angle, columella callous, smooth, lip produced towards the spire, but little expanded, broadly sinuated above, interior of the aperture finely wrinkled; whitish, sparingly lineate and blotched with brown, columella pale carnelion, interior of the aperture purple-black.

CHEMNITZ, Conch. Cab. vol. x. pl. 158. f. 1510, 1511.
Strombus adustus, Swainson.
Hab. Island of Ticao, Philippines (on coral reefs at low water); Cuming.

Very closely allied to *S. lentiginosa* in form, but amply distinguished by its wrinkled and richly-coloured aperture.

Species 30. (Fig. *a*, *b*, MUS. Cuming.)

STROMBUS BITUBERCULATUS. *Stromb. testâ conico-ovatâ, basi productâ et recurvâ, spirâ acutâ, varicosâ, anfractibus transversim striatis et liratis, pone labrum radiatis, supernè depressiusculis, obsoletè nodatis, anfractûs ultimi nodis fortioribus, tuberculis duobus valdè prominentibus, columellâ callosâ, labro expanso, incrassato, in labrum breeem terminato; griseo-albicante, fusco copiosè marmoratâ, aperturæ fauce roseo-lineatâ.*

THE TWO-TUBERCLED STROMBUS. Shell conically ovate, produced and recurved at the base, spire sharp, varicose, whorls transversely striated and ridged, rayed behind the lip, rather depressed round the upper part, obsoletely noduled, nodules of the last whorl stronger, with two very prominent tubercles, columella callous, lip expanded, thickened, terminated in a short lobe; greyish-white, copiously marbled with brown, interior of the aperture tinged with rose.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 690.
Strombus lobatus, Swainson.
Hab. Island of Granada, West Indies.

The two very prominent tubercles which are formed, prior to the expansion of the mature lip, form a characteristic feature in this species.

Species 31. (MUS. Cuming.)

STROMBUS LENTIGINOSUS. *Stromb. testâ oblongo-ovatâ, crassiusculâ, spirâ brevi, anfractibus transversim liratis et striatis, papilloso-nodatis, supernè depresso-concavis, ad angulum fortiter tuberculatis, columellâ callosâ, labro spiraw versus producto, utrinque latè sinuato; albâ, griseo-fusco undique lentiginosâ, aperturæ fauce flavescente.*

THE FRECKLED STROMBUS. Shell oblong-ovate, rather thick, spire short, whorls transversely ridged and striated, papillosely noduled, depressly concave round the upper part, strongly tubercled at the angle, columella callous, lip produced towards the spire, broadly sinuated at each end; white, freckled throughout with greyish-brown, interior of the aperture yellowish.

LINNÆUS, Syst. Nat. (Deshayes' edit.) vol. ix. p. 693.
Hab. Island of Luzon, Philippines (on the reefs in shallow water); Cuming.

Distinguished by a light grey freckled pattern upon a yellowish-white ground, which presents little variation. The edge of the lip is faintly tessellated with square brownish blotches.

32. *a*.

33.

34.

32. *b*.

Sowerby del. et lith.

Reeve & Nichols imp.

STROMBUS.

PLATE XIV.

Species 32. (Fig. *a*, Mus. Cuming, Fig. *b*, Mus. Belcher.)

STROMBUS GRANULATUS. *Stromb. testâ subquadrato-oblongâ, spirâ exsertâ, acuminato-turritâ, anfractibus transversim striatis, superne concavo-depressis, obtuse angulatis, ad angulum tumidiusculis, et tuberculato-nodosis, anfractu ultimo liris nodatis subirregulariter cingulato, columellâ callosâ, labro subexpanso et flexuoso, intus peculiariter granulato; albido, rufo-fusco marmoratâ, columellâ carneolâ, interdius autem raro roseâ.*

THE GRANULATED STROMBUS. Shell somewhat squarely oblong, spire exserted, acuminately turreted, whorls transversely striated, concavely depressed round the upper part, obtusely angled, rather swollen and tubercularly noduled at the angle, last whorl encircled somewhat irregularly with noduled ridges, columella callous, lip slightly expanded and flexuous, peculiarly granulated within; whitish, marbled with reddish-brown, columella carnelian, sometimes but rarely tinged with pink.

GRAY, Wood Ind. Test. Supp. pl. 4, f. 21.

Hab. St. Helena, and Galapagos Islands (in sandy mud at a depth of from six to eight fathoms); Cuming.

This species is remarkably characterized by the development of a broad cluster of granules on the internal surface of the expanded lip. They are but faintly indicated in the pink-stained variety represented at Fig. 32, *b*.

Species 33. (Mus. Cuming.)

STROMBUS GUTTATUS. *Stromb. testâ oblongo-ovatâ, basi valde recurvâ, spirâ acuminatâ, anfractibus lævibus, ad marginem suturalem tenuè nodulatis, deinde concavis, ad angulum tuberculato-nodatis, columellâ undique callosâ, encausto supra spiram usque ad apicem effuso, labro subexpanso, incrassato, supernè in lobo digitiformi prolongato; carneo-spadicè, floccis albis undique guttatâ, encausto albo, aperturæ fauce intensè rosco tinctâ.*

THE SPOTTED STROMBUS. Shell oblong-ovate, very much recurved at the base, spire acuminated, whorls smooth, finely noduled along the sutural margin, then concave, tubercularly noduled at the angle, columella callous throughout, the enamel flowing over the spire as far as the apex, lip slightly expanded, thickened, prolonged at the upper part into a digitiform lobe; flesh-tinged fawn-colour, spotted throughout with white flakes, enamel white, interior of the aperture stained with deep red.

Pugil guttatus lævis, Martini, Conch. Cab. vol. iii. p. 126. pl. 84. f. 840.

Strombus guttatus, Kiener.

Strombus Auris-Dianæ pars, Linnæus.

Strombus Auris-Dianæ, Sowerby.

Hab. Island of Burias, Philippines (on the reefs in shallow water); Cuming.

Martini well distinguished this species from the true *S. Auris-Dianæ*, which is roughly ribbed and ridged. The *S. guttatus* is conspicuously characterized by its smooth polished surface of a pinkish-fawn colour, sprinkled with irregular flakes of white; and it is remarkable for its copious deposit of enamel, which flows over the spire even to the apex.

Species 34. (Mus. Cuming.)

STROMBUS AUSTRALIS. *Stromb. testâ subquadrato-oblongâ, spirâ exsertâ, anfractibus undique transversim nodoso-liratis et striatis, supernè nodulis parvis notatis, deinde concavo-angulatis, medio ad angulum majoribus, columellâ callosâ, labro incrassato, expanso, dilatato, supernè in lobum obtusè digitiformem prolongato, aperturæ fauce conspicuè radiatim corrugato; albidâ, labri limbo intus aurantio-rufo tincto.*

THE AUSTRALIAN STROMBUS. Shell somewhat squarely oblong, spire exserted, whorls transversely nodosely ridged and striated, edged at the upper part with small nodules, then concavely angled, the nodules at the angle being larger, columella callous, lip thickened, expanded, dilated, prolonged at the upper part into an obtusely finger-shaped lobe, interior of the aperture conspicuously radiately wrinkled; whitish, edge of the lip stained with orange-red.

SOWERBY, Thessurus Conch. p. 36. pl. 9. f. 96, 97.

Hab. Australia.

This species, which is distinctly characterized as well in form as in the strong radiating wrinkled sculpture of the aperture, is doubtless richly marked in fine condition.

35.

36. a.

36. b.

37.

Sowerby del et lith.

Reeve & Nicholls Imp.

STROMBUS.

PLATE XV.

Species 35. (Mus. Cuming.)

STROMBUS NOVÆ-ZELANDIÆ. *Stromb. testâ oblongo-ovatâ, basi recurvâ, spirâ acuminato-turritâ, anfractibus superiè depresso-concavis, deindè acutè tuberculato-nodatis, infrà nodis transversim liratis, columellâ callosâ, labro expanso, subdilatato, superiè lobo digitiformi terminato, aperturæ fauce undique radiatim fortiter corrugato-sulcatâ; albidâ, spadiceo-fusco variè pictâ, strigatâ et marmoratâ, columellâ albidâ, maculâ castaneâ amplâ tinctâ, aperturæ fauce intensè aurantiâ, liris albidis.*

THE NEW ZEALAND STROMBUS. Shell oblong-ovate, recurved at the base, spire acuminately turreted, whorls depressly concave round the upper part, then sharply tuberculately noduled, transversely ridged beneath the nodules, columella callous, lip expanded, somewhat dilated, terminated at the upper part with a finger-shaped lobe, interior of the aperture strongly radiately grooved and wrinkled; whitish, variously painted, streaked and marbled with fawn-brown, columella whitish, stained with a large chestnut blotch, interior of the aperture deep orange, ridges whitish.

CHEMNITZ, Conch. Cab. vol. 10. pl. 156. f. 1485–6.

Strombus pacificus, Swainson.

Hab. New Zealand.

This species is remarkably distinguished by its richly rayed aperture and by the large chestnut blotch upon the columella. The locality "shores of Peru" given by Kiener and Deshayes is not likely to be correct.

Mr. Swainson has too frequently overlooked the important 'Conchylien Cabinet' of Martini and Chemnitz, by whom he is anticipated in several of his species.

Species 36. (Fig. 36 *a*, 36 *b*, and 37, Mus. Cuming.)

STROMBUS AURIS-DIANÆ. *Stromb. testâ oblongo-ovatâ, basi recurvâ, spirâ acuminato-turritâ, anfractibus rugosè et creberrimè liratis, liris pone labrum radiatis, hic illic nodatis, anfractuum parte superiori marginato, concavo, deindè tuberculato-nodato, columellâ calloâ callosâ, labro expanso, superiè lobo digitiformi terminato, limbo incrassato, aperturæ fauce superiè leviter corrugatâ; albidâ, fusco articulatâ et marmoratâ, pone labrum nigro aut fusco tessellatâ, columellâ albâ vel adustâ, aperturæ fauce vel carneolâ, vel intensè rosea, lobo interdum adusto-nigricante.*

THE DIANA'S EAR STROMBUS. Shell oblong-ovate, recurved at the base, spire acuminately turreted, whorls roughly and very closely ridged, ridges rayed behind the lip, here and there noduled, upper part of the whorls margined, concave, then tubercularly noduled, columella very callous, lip expanded, terminated at the upper part in a finger-shaped lobe, edge of the lip thickened, interior of the aperture slightly wrinkled at the upper part; whitish, articulated and marbled with brown, tessellated with black or brown behind the lip, columella white or chestnut-brown, interior of the aperture carnelion, or very deep pink, lobe sometimes adust-black.

LINNÆUS, Syst. Nat. (12th edit.) p. 1209.

Eadem var. *Strombus melanostomus*, Swainson.

Hab. Malayan Peninsula (in sandy mud at the depth of four fathoms) and Philippine Islands (on coral reefs at low water); Cuming.

I quite agree with M. Deshayes that the three shells here figured are varieties of one and the same species. They differ in the colouring of the aperture, but there is no difference of form or sculpture.

38.

39.

40. a.

40. b.

Lowenby, del. et lith.

Reeve & Nicholls, imp.

STROMBUS.

PLATE XVI.

Species 38. (Mus. Cuming.)

STROMBUS GRACILIOR. *Stromb. testâ ovato-conicâ, subfusiformi, spirâ acuminatâ, anfractibus lævibus, basi leviter sulcatis, rudè et subirregulariter convolutis, superne concavo-declivibus, deinde nodatis, nodis parvis, obtusis, columellâ callosâ, labro subalato, aperturæ fauce prope labrum obsoletè corrugatâ; pallidè rufescente-aurantiâ, labri limbo rufescente, aperturæ fauce albâ.*

THE MORE SLENDER STROMBUS. Shell ovately conical, somewhat fusiform, spire acuminated, whorls smooth, slightly grooved at the base, rudely and somewhat irregularly convoluted, concavely slanting round the upper part, then noduled, nodules small and rather sharp, columella callous, lip slightly winged, interior of the aperture obsoletely wrinkled near the lip; pale reddish-orange, edge of the lip tinged with red, interior of the aperture white.

SOWERBY, Tankerville Catalogue, App. p. XX.

Hab. St. Elena and Panama, Central America (in sandy mud at a depth of from six to twelve fathoms); Cuming.

This species is constantly distinguished from the following by its rude convolution and comparatively obsolete nodules.

Species 39. (Mus. Cuming.)

STROMBUS PUGILIS. *Stromb. testâ ovato-conicâ, subobesâ, spirâ acuminatâ, anfractibus lævibus, basi et apicem versus sulcatis, superne concavis, ad angulum fortiter spinoso-nodatis, columellâ callosâ, labro subalato, aperturæ fauce prope labrum interdum obscurè corrugatâ; aurantio-rufâ, columellâ et aperturæ fauce intensè carneolo-rufis.*

THE ARMED STROMBUS. Shell ovately conical, rather obtuse, spire acuminated, whorls smooth, grooved at the base and towards the apex, concave round the upper part, strongly spinose-noduled at the angle, columella callous, lip slightly winged, interior of the aperture sometimes obscurely wrinkled near the lip; orange-red, columella and interior of the aperture deep carnelion-red.

LINNÆUS, Syst. Nat. (12th edit.) p. 1209.

Hab. West Indies and Gulf of Mexico.

Chiefly remarkable for the strong spine-like character of the nodules.

Species 40. (Mus. Cuming.)

STROMBUS ALATUS. *Stromb. testâ ovato-conicâ, subobesâ, spirâ acuminatâ, anfractibus lævibus, basi et apicem versus conspicuè sulcatis, superne concavis, ad angulum nodatis, nodis perviusculis, columellâ valdè callosâ, labro alato, aperturæ fauce labrum versus corrugatâ; castaneo-fuscâ, columellâ et aperturæ fauce intensè nigricante-castaneis, interdum carneolo-rufis.*

THE WINGED STROMBUS. Shell ovately conical, rather stout, spire acuminated, whorls smooth, conspicuously grooved at the base and towards the apex, concave round the upper part, noduled at the angle, nodules rather small, columella very callous, lip winged, interior of the aperture wrinkled towards the lip; chestnut-brown, columella and interior of the aperture deep blackish-chestnut, sometimes carnelion-red.

GMELIN, Syst. Nat. p. 3513.

Strombus pyrulatus, Lamarck.

Hab. Gulf of Mexico.

It is extremely doubtful whether this is a distinct species from the preceding. The nodules are not so prominent, and the spire is generally more strongly grooved.

42.

41. a.

43.

44. a.

45.

44. b.

41. b.

Sowerby, Lith. et Col.

Reeve & Nicholls imp.

STROMBUS.

PLATE XVII.

Species 41. (Fig. *a*, *b*, Mus. Cuming.)

STROMBUS ELEGANS. *Stromb. testâ fusiformi-turritâ, spirâ exsertâ, anfractibus transversim tenuiliratis, superne latè angulatis, ad angulum plicato-nodatis, costâ tumidâ flexuosâ pone labrum, columellâ crassè laminatâ, supra et infra corrugatâ, aperturâ subcontractâ, fauce densè corrugatâ; albidâ, rufo-fusco fasciatâ et punctatâ, columellâ et aperturæ fauce purpureis vel intensè rufis.*

THE ELEGANT STROMBUS. Shell fusiformly turreted, spire exserted, whorls transversely finely ridged, broadly angled at the upper part, plicately noduled at the angle, with a swollen flexuous rib behind the lip, columella thickly laminated, wrinkled above and below, aperture somewhat contracted, interior densely wrinkled; whitish, banded and dotted with red-brown, columella and interior of the aperture purple or deep red.

SOWERBY, Thesaurus Conch. p. 30. pl. 7. f. 43 and 48.

Hab. Red Sea; Ruppell. Philippine Islands (in coarse sand at the depth of eight fathoms); Cuming.

Very closely allied to *S. rugosus*, from which it differs in being of a more fusiform turreted shape.

Species 42. (Mus. Cuming.)

STROMBUS JAPONICUS. *Stromb. testâ fusiformi-turritâ, spirâ valdè exsertâ, anfractibus undique crebrirrimè et regulariter sulcatis, superne declivi-concavis, ad angulum subobsoletè plicato-nodatis, apicem versus longitudinaliter tenuicostatis, columellâ callosâ, laminatâ, labro alato, intus conspicuè radiatim corrugato; albâ, rufo-fusco tinctâ et variegatâ, zonulis albis, maculis sagittariis interruptis, cingulatâ, columellâ et aperturæ fauce elaveis.*

THE JAPAN STROMBUS. Shell fusiformly turreted, spire much exserted, whorls transversely very closely and regularly grooved throughout, slantingly concave, round the upper part, somewhat obscurely plicately noduled at the angle, longitudinally finely ribbed towards the apex, columella callous, laminated, lip winged, conspicuously radiately wrinkled within; white, stained and variegated with red-brown, encircled with narrow white zones, interrupted with arrow-headed markings, columella and interior of the aperture ivory-white.

Hab. Japan.

This species is certainly distinct from *S. vittatus* and *Campbelli*, chiefly in the slanting concavity of the upper portion of the whorls and in their close transverse grooving.

Species 43. (Mus. Cuming.)

STROMBUS SUCCINCTUS. *Stromb. testâ oblongo-ovatâ, subfusiformi, spirâ acuminatâ, apice acutâ, anfractibus lævibus, superne declivibus, anfractu ultimo obsoletè rudè tuberculato, labro alato, ad spiram producto, columellâ callosâ, aperturâ subangustâ, superne conspicuè canaliculatâ, fauce radiatim corrugatâ; fulco-spadicea, fusco eximiè lentiginosâ, zonulis albis, maculis sagittariis interruptis, cingulatâ, columellâ et aperturæ fauce ebureis.*

THE GIRDLED STROMBUS. Shell oblong-ovate, somewhat fusiform, spire acuminated, apex sharp, whorls smooth, slanting round the upper part, last whorl obsoletely rudely tubercled, lip winged, produced upon the spire, columella callous, aperture rather narrow, conspicuously channelled at the upper part, interior radiately wrinkled; fulvous fawn-colour, delicately freckled with brown, encircled with white zones, interrupted with arrow-headed marks, columella and interior of the aperture ivory-white.

LINNÆUS, Syst. Nat. (12th edit.) p. 1212.

Strombus accinctus, Born.

Hab. Island of Masbate, Philippines (on the reefs at low water); Cuming.

Chiefly characterized by the channelled growth of the lip upon the spire, and the slanting form of the whorls round the upper part.

Species 44. (Fig. *a*, Mus. Cuming; Fig. *b*, Mus. Saul.)

STROMBUS VITTATUS. *Stromb. testâ elongato-turritâ, lævi conspicuè sulcatâ, anfractibus aut lævibus aut transversim tenuistriatis, longitudinaliter subtiliter costatis, superne marginatis et depressis, anfractu ultimo tantum lævigato, columellâ callosâ, labro alato, intus obscurè corrugato, ad anfractus penultimum producto; rufo-fusco, vittis tribus illic interrupto, tinctâ et variegatâ, columellâ et aperturæ fauce niveis.*

THE RIBAND-MARKED STROMBUS. Shell elongately turreted, conspicuously grooved at the base, whorls either smooth or transversely finely striated, longitudinally finely ribbed, margined and depressed round the upper part, last whorl smooth, columella callous, lip winged, rather obscurely wrinkled within, produced upon the last whorl but one; white, stained and variegated with red-brown, interrupted here and there with ribands, columella and interior of the aperture white.

LINNÆUS, Syst. Nat. (12th edit.) p. 1211.

Eadem var. *Strombus turritus*, Lamarck.

Hab. Philippine Islands; Cuming.

This species varies chiefly in being more or less sculptured: in some specimens nearly the entire shell is smooth, while in others it is elaborately ribbed and grooved.

Species 45. (Mus. Cuming.)

STROMBUS CAMPBELLI. *Stromb. testâ fusiformi-turritâ, spirâ valdè exsertâ, anfractibus lævibus, bini conspicuè sulcatis, apicem versus costatis, supernè latèmarginatis, margine plicato-costato, anfractu ultimo dorso rudè gibboso, columellâ callosâ, labro alato; albidâ, rufo-fusco undique lentiginosâ et fasciatâ, columellâ et aperturæ fauce eburneis.*

CAMPBELL'S STROMBUS. Shell fusiformly turreted, spire very much exserted, whorls smooth, conspicuously grooved at the base, ribbed towards the apex, broadly margined round the upper part, margin plicately ribbed, last whorl rudely gibbous at the back, columella callous, lip winged; whitish, freckled and banded throughout with reddish-brown, columella and interior of the aperture ivory-white.

GRAY, Griffith's Cuvier Anim. Kingdom, Moll. pl. 25.

Hab. Sandy Cape, North Australia; Jukes.

Independently of its shorter and more rudely gibbous form, this species differs from *S. vittatus* in having the margined summit of the whorls ribbed, whilst below this they are smooth.

46. a.

47.

48.

46. b.

49.

51.

50.

Sowerby del et lith.

Bowen & Nichols, imp.

STROMBUS.

PLATE XVIII.

Species 46. (Fig. *a*, *b*, Mus. Cuming.)

STROMBUS CANARIUM. *Stromb. testâ abbreviato-ovatâ, subrigonâ, obesâ, ponderosâ, spirâ parvinsculâ, acutâ, varicosâ, anfractibus lævibus, gibbosis, apicem versus tuberculatis, columellâ valdè callosâ, labro alato, incrassato; albidâ aut fulvescente, liueis fuscis irregulariter flexuosis undique decussè longitudinaliter pictâ, columellâ et apertura fauce chalybeis.*

THE PARTRIDGE-WING STROMBUS. Shell shortly ovate, somewhat triangular, stout, heavy, spire rather small, sharp, varicose, whorls smooth, gibbous, grooved towards the apex, columella very callous, lip winged, thickened; whitish or fulvous, densely longitudinally painted throughout with irregularly flexuous brown lines, columella and interior of the aperture ivory-white.

LINNÆUS, Syst. Nat. (12th edit.) p. 1211.

Eadem var. *Stromhus Vanicorensis*, Quoy.

Hab. Ceylon and Philippine Islands; Cuming.

A small species of solid growth, in which there is no indication of any sculpture except towards the apex.

Species 47. (MUS. SAUL.)

STROMBUS MINIMUS. *Stromb. testâ ovatâ, spirâ acuminatâ, apicem versus varicosâ, anfractibus lævibus, superne tenuissimè striatis, deinde angulatis, ad angulum plicato-nodulis, columellâ valdè callosâ, callositate ad spiram producta, labro alato, ad spiram calloso-producto; spadiceo-fusco, columellâ albâ, aperturæ fauce crocea.*

THE SMALL STROMBUS. Shell ovate, spire acuminated, varicose towards the apex, whorls smooth, finely margined round the upper part, then angled, plicitely nodulated at the angle, columella very callous, callosity produced at the spire, lip winged, callously produced on the spire; fawn-brown, columella white, interior of the aperture tinged with saffron.

LINNÆUS, Mantissa, p. 549.

Strombus troglodytes, Lamarck.

Hab. Island of Ticao, Philippines (on the reefs); Cuming.

This little species is chiefly distinguished by the callosities formed on the spire at the junction of the lip with the body-whorl, and by the saffron tinge of colouring within the aperture.

Species 48. (Mus. Cuming.)

STROMBUS SIEBALDII. *Stromb. testâ abbreviato-ovatâ, obesâ, spirâ peculiariter acuminato-turritâ, apicem versus varicosâ et costatâ, anfractibus gibbosis, transversim sulcatis, superne concavo-angulatis, ad angulum profunde nodulatis, columellâ callosâ et corrugatâ, basi truncatâ, labro alato, intus radiatim corrugato; pallidè spadiceâ, vittis lentiginosis cingulatâ, rugis columellæ partim intensè purpureis, aperturæ fauce albâ.*

SIEBALD'S STROMBUS. Shell abbreviately ovate, stout, spire peculiarly abbreviately turreted, varicose and ribbed towards the apex, whorls gibbous, transversely grooved, concavely angled round the upper part, profusely noduled at the angle, columella callous and wrinkled, truncated at the base, lip winged, radiately wrinkled within; light fawn-colour, encircled with freckled ribands, wrinkles of the columella partially coloured with deep purple, interior of the aperture white.

SOWERBY, Thesaurus Conch. p. 28. f. 10, 11.

Hab. Ceylon.

The form of this species is very peculiar, being short and gibbous with the spire singularly elevated, while the columellar wrinkles are characteristically stained with deep purple.

Species 49. (Mus. Cuming.)

STROMBUS MARGINATUS. *Stromb. testâ ovato-conicâ, spirâ brevi, subdepressâ, apice acutâ, anfractibus lævibus, basin versus sulcatis, inferne contractis, superne tumidis, depresse-angulatis, ad angulum peculiariter marginatis, margine prope apicem subtilissime nodulato, columellâ callosâ, lævinatâ, aperturâ angustâ, superne canaliculatâ, labro ad spiram producto, intus obscurè corrugato; rufo-spadiceâ, cingulatâ, cingulis lentiginosis cingulatâ, columellâ et aperturæ fauce albis.*

THE MARGINED STROMBUS. Shell ovately conical, spire short, rather depressed, sharp at the apex, whorls smooth, grooved towards the base, contracted at the lower part, swollen and depressly angled above, peculiarly margined at the angle, margin very finely noduled near the apex, columella callous, laminated, aperture narrow, channelled at the upper part, lip produced upon the spire, obscurely wrinkled within;

reddish-fawn, encircled with freckled ribands, columella and interior of the aperture white.

LINNÆUS, Syst. Nat. (12th edit.) p. 1209.

Hab. Philippine Islands; Cuming.

As in many other instances, it is not possible to decide whether the shell which Lamarck and others refer to the Linnæan species is the correct type. The diagnoses of the 'Systema Naturæ' are often too brief to fix the identity of the species, which is not unfrequently illustrated by reference to two or more figures of different specific character. *S. marginatus*, though differing so materially in form, has very much the appearance of a longitudinally compressed variety of *S. succinctus*.

Species 50. (Mus. Saul.)

STROMBUS LABIOSUS. *Stromb. testâ subtrigono-ovatâ, basi attenuatâ et subcontortâ, spirâ acuminatâ, anfractibus transversim crebrerimè sulcatis, superiè obtusè angulatis, ad angulum profundè plicato-nodatis, columellâ valdè callosâ, labro conspicuè alato, incrassato; fulvo-spadiceâ, columellâ et aperturæ fauce olivaceis.*

THE FULL-LIPPED STROMBUS. Shell somewhat triangularly ovate, attenuated and slightly twisted at the base, spire acuminated, whorls transversely very closely grooved, obtusely angled round the upper part, profusely plicately noduled at the angle, columella very callous, lip conspicuously winged, thickened; fulvous-fawn, columella and interior of the aperture ivory-white.

GRAY, Wood Index Test. Supp. pl. 4.

Hab. Cagayan, Island of Mindanao, Philippines (in sandy mud at the depth of twenty-five fathoms); Cuming.

The detail of sculpture in this species is very similar to that in *S. minimus*.

Species 51. (Mus. Cuming.)

STROMBUS ISABELLA. *Stromb. testâ subtrigono-ovatâ, spirâ brevi, apice acutâ, anfractibus lævibus, basi sulcatis, superiè rotundatis, prope apicem sulcatis et varicosis, columellâ callosâ, labro subalato, simplici; sordidè fulvo-fuscâ, immaculatâ, interdum autem rarò fasciatâ, columellâ et aperturæ fauce albis.*

THE ISABELLA STROMBUS. Shell somewhat triangularly ovate, spire short, sharp at the apex, whorls smooth, grooved at the base, rounded at the upper part, grooved and varicose near the apex, columella callous, lip slightly winged, simple; dirty fulvous brown, unspotted, sometimes, but rarely, banded, columella and interior of the aperture white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 700.

Eadem var. *Strombus terselatus*, Quoy.

Hab. Philippine Islands (on the reefs at low water); Cuming.

Notwithstanding the similarity of form between this species and *S. canarium*, there can be little doubt of their being distinct. The shell is not so thick in substance, and there is a marked difference in the growth of the lip, the most characteristic part of the shell in *Strombus*.

53. a.

52.

53. b.

54.

55. a.

56.

55. b.

Sowerby, del. et lith.

Evans & Nichols imp.

STROMBUS.

PLATE XIX.

Species 52. (Mus. Cuming.)

STROMBUS PULCHELLUS. *Stromb. testâ subquadrato-ovatâ, spirâ acuminato-turritâ, anfractibus radiatim sulcatis, supernè rotundatis, creberrimè nodoso-plicatis, apicem versus conspicuè varicosis, anfractu ultimo costâ tumidâ pone labrum, columellâ callosâ, labro alato, intus fortiter radiatim corrugato; albidâ, rufescente-spadiceo fasciatâ et lentiginosâ, columellæ parte superiori et aperturæ fauce intensè purpureis.*

THE PRETTY STROMBUS. Shell somewhat squarely ovate, spire acuminately turreted, whorls radiately grooved, rounded at the upper part, very closely nodosely plaited, conspicuously varicose towards the apex, last whorl with a swollen rib behind the lip, columella callous, lip winged, strongly radiately wrinkled within; whitish, banded and freckled with reddish-fawn, upper part of the columella and interior of the aperture deep purple.

Hab. Island of Ticao, Philippines (on the reefs); Cuming.

This little species appears to be distinct from all the known varieties, and there are many, of *S. labiosus*, to which it is nearest allied.

Species 53. (Fig. *a*, *b*, Mus. Cuming.)

STROMBUS SAMARENSIS. *Stromb. testâ fusiformi-oblongâ, basi prolongatâ, recurvâ, Terebelliformi, solidiusculâ, spirâ acuminatâ, apicem versus varicosâ, anfractibus lævibus, politis, supernè plicato-costatis, costis plus minus obsoletis, columellâ densè callosâ, aperturâ parvâ, fauce profusè corrugatâ, labro fortiter tridentato; albâ, rufo-fusco tinctâ et nebulatâ, columellâ albâ, aperturæ fauce intensè purpureâ, rugis albis.*

THE SAMAR STROMBUS. Shell fusiformly oblong, prolonged and recurved at the base, Terebellum-shaped, rather solid, spire acuminated, varicose towards the apex, whorls smooth, polished, plicately ribbed round the upper part, ribs more or less obsolete, columella thickly callous, aperture small, interior profusely wrinkled, lip strongly three-toothed; white, stained and clouded with red-brown, columella white, interior of the aperture deep purple, with the wrinkles white.

Strombus Samar, Chemnitz, Conch. Cab. vol. x. p. 221. pl. 157. f. 1503.

Strombus tridentatus, Lamarck.

Strombus dentatus, Sowerby (not of Linnæus).

Hab. Philippine Islands; Cuming.

This species was not known to Linnæus, having been first described and figured in the tenth volume of the 'Conchylien Cabinet,' where Chemnitz distinguished it by the name of its habitat, one of the Philippine Islands.

Species 54. (Mus. Cuming.)

STROMBUS EPIDROMIS. *Stromb. testâ ovatâ, spirâ breviusculâ, apice acutâ, anfractibus lævibus, supernè declivibus, vix angulatis, ad angulum profusè nodulatis, columellâ callosâ, labro subampliter plano-expanso, rotundato; albâ, rufescente-spadiceo lentiginosâ, columellâ et aperturæ fauce eburneis.*

THE SAIL STROMBUS. Shell ovate, spire rather short, sharp at the apex, whorls smooth, slanting round the upper part, slightly angled, profusely noduled at the angle, columella callous, lip rather largely flatly expanded, rounded; white, freckled with reddish-fawn, columella and interior of the aperture ivory-white.

LINNÆUS, Syst. Nat. (12th edit.) p. 1211.

Hab. Island of Ticao, Philippines (on the reefs); Cuming.

Well characterized by its flatly expanded rounded lip, which stands out from the body of the shell like a spreading sail.

Species 55. (Mus. Brit.)

STROMBUS DEFORMIS. *Stromb. testâ subfusiformi-ovatâ, spirâ acuminato-turritâ, apice acutâ, anfractibus transversim undique creberrimè sulcatis, supernè declivibus, ad angulum plicato-nodatis, nodis anticè in costis descendentibus, columellâ callosâ, undique fortiter corrugatâ, labro alato, expanso, intus fortiter corrugato; albidâ, rufo-fusco punctatâ et fasciatâ, columellâ et aperturæ fauce albis.*

THE DEFORMED STROMBUS. Shell somewhat fusiformly ovate, spire acuminately turreted, sharp at the apex, whorls transversely very closely grooved throughout, slanting round the upper part, plicately noduled at the angle, nodules descending in front into ribs, columella callous, strongly wrinkled throughout, lip

winged, expanded, strongly wrinkled within; whitish, dotted and banded with reddish-brown, columella and interior of the aperture white.

GRAY, Griffith's Cuv. Anim. Kingdom, Moll. pl. 25.

Hab. Australia.

The form of this species is characteristic, and the wrinkled sculpture of the aperture and columella is larger and stronger than usual.

Species 56. (Mus. Saul.)

STROMBUS FASCIATUS. *Stromb. testâ ovato-conicâ, spirâ brevi, apice acutâ, anfractibus lævibus, superne concavo-declivibus, deinde tuberculatis, columellâ lævigatâ, aperturâ oblongâ, subangustâ, labro simplici, superne sinuato; albidâ, rufescente-fusco subtilissimè lentiginosâ, maculis nigris sagittariis fasciatâ, columellâ et aperturæ fauce croceis.*

THE BANDED STROMBUS. Shell ovate, conical, spire short, sharp at the apex, whorls smooth, concavely slanting round the upper part, then tuberculed, columella smooth, aperture oblong, rather narrow, lip simple, sinuated at the upper part; whitish, very delicately freckled with reddish-brown, and banded with rows of arrow-headed black spots, columella and interior of the aperture saffron-yellow.

BORN, Mus. Vind. p. 278.

Strombus subulatus, Herbst.

Strombus polyfasciatus, Chemnitz.

Strombus lineatus, Lamarck.

Strombus Persicus, Swainson.

Hab. Red Sea.

Very distinct from all other species of the genus, especially in its peculiarity of colouring.

STROMBUS.

	Plate.	Species.
accinctus, Born	XVII.	43
accipitrinus, *Lamarck*	VII.	12
adustus, Swainson	XIII.	29
alatus, *Gmelin*	XVI.	40
auris-Dianæ, *Linnæus*	XV.	36
auris-Dianæ, Sowerby	XIV.	33
Australis, *Sowerby*	XIV.	34
bituberculatus, *Lamarck*	XIII.	30
bubonius, *Lamarck*	XII.	27
bulbulus, *Sowerby*	VI.	8
canarium, *Linnæus*	XVIII.	46
Campbelli, *Gray*	XVII.	45
columba, *Lamarck*	XII.	26
corrugatus, Adams & Reeve	IX.	16
costatus, Gmelin	VII.	12
crenatus, Sowerby	III.	3
cristatus, Lamarck	XI.	25
cylindricus, Swainson	IX.	20
deformis, *Gray*	XIX.	55
dentatus, *Linnæus*	IX.	17
dentatus, Sowerby	XIX.	53
dilatatus, Lamarck	XII.	27
dilatatus, Swainson	XII.	28
elegans, *Sowerby*	XVII.	41
epidromis, *Linnæus*	XIX.	54
fasciatus, *Born*	XIX.	56
fasciatus, Gmelin	XII.	27
floridus, *Lamarck*	VII.	11
fusiformis, *Sowerby*	V.	7
galea, Wood	III.	3
galeatus, *Swainson*	III.	3
gallus, *Linnæus*	IX.	18
gibberulus, *Linnæus*	VIII.	15
gigas, *Linnæus*	II.	2
Goliath, *Chemnitz*	I.	1
gracilior, *Sowerby*	XVI.	38
granulatus, *Gray*	XIV.	32
guttatus, *Kiener*	XIV.	33
hæmastoma, *Sowerby*	V.	5
Hellii, Rousseau	V.	5
incrnis, Swainson	VII.	13
Isabella, *Lamarck*	XVIII.	51
Japonicus, *Reeve*	XVII.	42

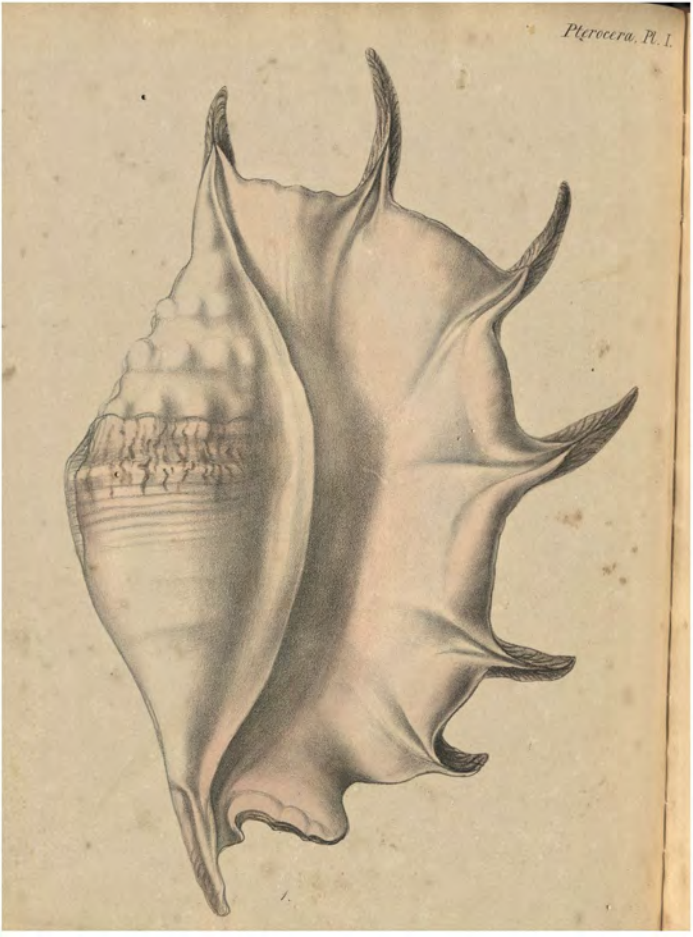
	Plate.	Species.
labiosus, *Gray*	XVIII.	50
laciniatus, *Chemnitz*	XI.	25
latissimus, *Linnæus*	IV.	4
lentiginosus, *Linnæus*	XIII.	31
lineatus, Lamarck	XIX.	56
lobatus, Swainson	XIII.	30
lucifer, Linnæus	II.	2
Luhuanus, *Linnæus*	IX.	19
maculatus, *Nuttall*	XI.	23
marginatus, *Linnæus*	XVIII.	49
Mauritianus, *Lamarck*	IX.	20
melanostomus, Swainson	XV.	36
minimus, *Linnæus*	XVIII.	47
mutabilis, Swainson	VII.	11
Novæ-Zelandiæ, *Chemnitz*	XV.	35
pacificus, *Swainson*	XV.	35
papilio, *Chemnitz*	XIII.	29
Pernicus, Swainson	XIX.	56
Peruvianus, *Swainson*	V.	6
plicatus, *Lamarck*	IX.	17
polyfasciatus, Chemnitz	XIX.	56
pugilis, *Linnæus*	XVI.	39
pulchellus, *Reeve*	XIX.	52
pyrulatus, Lamarck	XVI.	40
rugosus, *Sowerby*	IX.	16
Ruppellii, *Reeve*	VIII.	13
Samarensis, *Chemnitz*	XIX.	53
Sibbaldii, *Sowerby*	XVIII.	48
subulatus, Herbst	XIX.	56
succinctus, *Linnæus*	XVII.	43
Swainsoni, *Reeve*	XII.	28
teniatus, Quoy	XVIII.	51
Taukervillii, Swainson	XII.	26
terebellatus, *Sowerby*	VI.	10
Thersites, *Gray*	VI.	9
tricornis, *Lamarck*	X.	22
tridentatus, Lamarck	XIX.	53
troglodytes, Lamarck	XVIII.	47
turritus, Lamarck	XVII.	44
urceus, *Linnæus*	XI.	24
Vanikorensis, Quoy	XVIII.	46
variabilis, *Swainson*	X.	21
vittatus, *Linnæus*	XVII.	44

MONOGRAPH

OF THE GENUS

PTEROCERA.

What bear ye now, ye dancing waves,
In your wild delirious play?
Sea-weeds or shells, from the coral caves,
Where the flocks of ocean stray?—*Miss Roberts.*



PTEROCERA.

PLATE I.

Genus PTEROCERA, *Lamarck*.

Testa ovato-oblonga, ventricosa, spirâ plus minus acuminatâ, anfractu ultimo valdè majore, labro in alam digitatam ampliter expanso, basi in canalem digitatam producto, columellâ et aperturæ fauce interdum lævigatis, interdum dense corrugatis. Operculum corneum, crassum, oblongum, acuminatum.

Shell ovately oblong, ventricose, spire more or less acuminated, last whorl much larger, with the lip largely expanded into a clawed wing, base produced into a clawed canal, columella and interior of the aperture sometimes smooth, sometimes densely wrinkled. Operculum horny, thick, oblong, acuminated.

The ten characteristic forms which have been associated under the head of *Pterocera*, are mainly distinguished by the outer lip being widely expanded over the summit of the spire, and developed into a number of spreading claws. The sculpture and even the colouring of the whorls about the spire is very similar in all. The typical varieties of character in the different species reside in the clawed lip, and in the columella and interior of the aperture, which are often brilliantly coloured. In *P. chiragra* and *rugosa* the lip is expanded into six widely spreading claws, the columella and aperture being smooth in the first-named species, and wrinkled in the second. In *P. bryonia*, *lambis*, and *aurantiaca*, there are seven claws, and the columella and aperture are smooth. In *P. scorpius* and *pseudo-scorpio*, with seven claws, the columella and aperture are densely wrinkled, and the claws are nodose. In *P. elongata* and *millepeda* with ten, and in *P. multipes* with eleven claws, the columella and aperture of all three are densely wrinkled.

No representative of this genus has been found in any part of the American coast. *P. rugosa* and *bryonia* were collected by Mr. Cuming at the Society Islands; the rest are from the Eastern Seas.

Species 1. (Mus. Cuming.)

PTEROCERA BRYONIA. *Pter. testâ ovato-oblongâ, spirâ nunc acuminatâ, nunc truncatâ, anfractibus subtiliter striatis, superne concavis, ad angulum fortiter nodatis, anfractu ultimo labro latissimè expanso, heptadactylo, columellâ callosâ, lævi, aperturæ fauce lævi; albidâ, fuscescente vix tinctâ, columellâ et aperturæ fauce albido-carneis.*

THE WILD-VINE ROOT PTEROCERA. Shell ovately oblong, spire sometimes acuminated, sometimes truncated, whorls finely striated, concave round the upper part, strongly noduled at the angle, last whorl with the lip very widely expanded, seven-clawed, columella callous, smooth, interior of the aperture smooth; whitish, but little stained with brown, columella and interior of the aperture whitish flesh-colour.

Strombus radix bryonia, Chemnitz, Conch. Cab. vol. x. p. 227. pl. 159. f. 1512–15.

Strombus bryonia, Gmelin.

Eadem var. *Pterocera Scha*, Valenciennes.

Hab. Society Islands; Cuming.

The spire of this, the largest species of the genus, is sometimes acuminated, sometimes flatly truncated. M. Valenciennes and M. Kiener regard these varieties as distinct species.

February, 1851.

PTEROCERA.

PLATE II.

Species 2. (Mus. Cuming.)

PTEROCERA CHIRAGRA. *Pter. testâ ovato-oblongâ, spirâ brevisculâ, acuminatâ, anfractibus striis elevatis regulariter cingulatis, supernè concavis, deindè nodatis, anfractu ultimo costis tuberosis cingulato, hexadactylo, dactylis curvatis, longiusculis, latè expansis, columellâ obscurrugatâ; albidâ, castaneo-fusco undique marmoratâ et variegatâ, columellâ et aperturæ fauce rosco-carneis.*

THE GOUTY PTEROCERA. Shell ovately oblong, spire rather short, acuminated, whorls encircled with regular raised striæ, concave round the upper part, then noduled, last whorl encircled with tuberous ribs, six-clawed, claws curved, rather long, widely spread, columella faintly wrinkled; whitish, marbled and variegated throughout with chestnut-red, columella and interior of the aperture pinkish flesh-colour.

Strombus chiragra, Linnæus, Syst. Nat. (12th edit.) p. 1207.

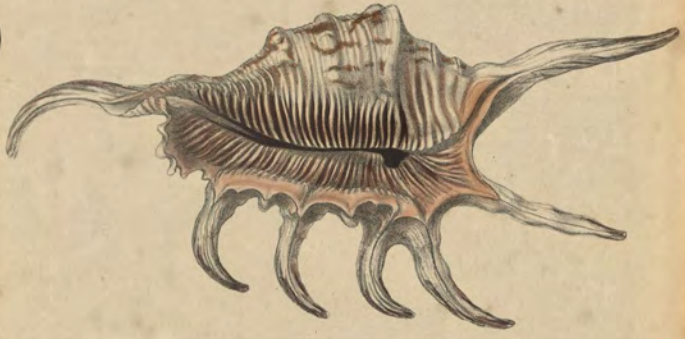
Pterocera chiragra, Lamarck.

Hab. Island of Timor, &c., Eastern Seas.

This well-known species is chiefly remarkable for the widely-expanded, star-like arrangement of the claws.

February, 1851.

3.



4.

PTEROCERA.

PLATE III.

Species 3. (Mus. Cuming.)

PTEROCERA SCORPIUS. *Pter. testâ ovato-oblongâ, spirâ brevisculâ, apice acutâ, anfractibus striis subtilibus elevatis cingulatis, superne plano-declivibus, ad angulum acutis, compressè nodatis, anfractu ultimo costis tuberosis cingulato, heptadactylo, dactylis nodatis, lateralibus brevibus, curvatis, antico elongato, curvato, columellâ et aperturæ fauce densè et fortiter corrugatis, labro anticè crenato; albidâ, castaneo-fusco sparsim maculatâ, columellâ et aperturæ fauce roseo-carneis, intensè violaceo tinctis, rugis albis.*

THE SCORPION PTEROCERA. Shell ovately oblong, spire rather short, apex sharp, whorls encircled with fine raised striæ, flatly slanting round, the upper part, sharp at the angle, compressely noduled, last whorl encircled with tuberous ribs, seven-clawed, claws noduled, side claws short, curved, front claw long, curved, columella and interior of the aperture densely and strongly wrinkled, lip crenated in front; whitish, sparingly blotched with chestnut-brown, columella and interior of the aperture pinkish-flesh, stained with very deep violet, upon which the wrinkles are white.

Strombus scorpius, Linnæus, Syst. Nat. (12th edit.) p. 1208.
Pterocera scorpio, Lamarck.
Pterocera nodosa, Swainson.

Hab. Philippine Islands (on the reefs at low water); Cuming.

Well distinguished by its sharply noduled claws, and intense violet colouring internally.

Species 4. (Mus. Cuming.)

PTEROCERA PSEUDO-SCORPIO. *Pter. testâ ovato-oblongâ, spirâ brevisculâ, apice acutâ, anfractibus striis subtilibus elevatis cingulatis, superne plano-declivibus, ad angulum acutis et compressè nodatis, anfractu ultimo costis tuberosis cingulato, heptadactylo, dactylis obsoletè nodatis, lateralibus curvatis, duobus approximatis, dactylo postico longiusculo, labro anticè crenato, columellâ et aperturæ fauce densè et fortiter corrugatis; albidâ, castaneo-fusco marmoratâ, columellâ et aperturæ fauce intensè fusco-purpureis, rugis albis.*

THE FALSE-SCORPION PTEROCERA. Shell ovately oblong, spire rather short, sharp at the apex, whorls encircled with fine raised striæ, flatly slanting round the upper part, sharp and compressely noduled at the angle, last whorl encircled with tuberous ribs, seven-clawed, claws obsoletely noduled, side claws curved, the two uppermost of the side claws approximating each other, posterior claw rather long, lip crenated in front, columella and interior of the aperture densely and strongly wrinkled; whitish, marbled with chestnut-brown, columella and interior of the aperture deep brownish-purple, wrinkles white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 674.

Hab. Zanzibar, East Africa.

It is extremely doubtful whether this is anything more than a local variety of the foregoing species. It is uniformly of larger size, with the claws more prolonged and less noduled. The hinder claw is especially elongated, and the two hinder side-claws are approximated both in Mr. Cuming's specimen and that in the British Museum.

February, 1851.

5.

6.

Sowerby, del et lith.

Bates & Nichols imp.

PTEROCERA.

PLATE IV.

Species 5. (Mus. Cuming.)

PTEROCERA MULTIPES. *Pter. testâ ovato-oblongâ, spirâ acuminatâ, anfractibus subtilissimè striatis, superne angulatis, ad angulum nodatis, nodis compressis, gradatim majoribus, anfractu ultimo nodis peramplis, infra lævato, lirâ irregularibus, partim nodatis, columellâ callosâ, vix corrugatâ, labro expanso, decadactylo, dactylis subplanatis, postico bi-trifido, aperturæ fauce fortiter et creberrimè sulcatâ; albidâ, aurantio-fusco conspicuè maculatâ et vittatâ, aperturæ fauce albâ, in profundo intensè rufescente-violaceo tinctâ, columellâ et labri margine aurantio-tinctis.*

THE MANY-FOOTED PTEROCERA. Shell ovately oblong, spire acuminated, whorls very finely striated, angled round the upper part, nodulated at the angle, nodules compressed, gradually larger, last whorl with the nodules very large, ridged below, ridges irregular, partially nodulated, columella callous, scarcely wrinkled, lip expanded, ten-clawed, claws rather flattened, the posterior claw bifid or trifid, interior of the aperture strongly and very closely grooved; whitish, conspicuously spotted and filleted with light orange-brown, interior of the aperture white, in the depth deeply stained with reddish-violet, columella and border of the lip tinged with orange.

Strombus multipes, Chemnitz, Conch. Cab. vol. x. p. 216. pl. 157. f. 1494–5.

Pterocera multipes, Deshayes.

Pterocera millipeda, Lamarck.

Pterocera violacea, Swainson.

Hab. East coast of Africa.

This very delicate and pretty species may readily be distinguished from *P. millipeda*, with which it is confounded by Lamarck and Kiener.

Species 6. (Mus. Cuming.)

PTEROCERA RUGOSA. *Pter. ovato-oblongâ, spirâ acuminatâ, anfractibus undique subtiliter striatis, superne concavis, deinde angulatis, ad angulum obsoletè nodatis, anfractu ultimo costis nodatis cinguloto, nodis peramplis, hexadactylo, dactylis longiusculis, curvatis, latè expansis, columellâ undique fortiter rugosâ, aperturæ fauce subtiliter corrugatâ; albidâ, rufescente-fusco maculatâ, columellâ et aperturæ fauce intensè purpureis, rugis albis.*

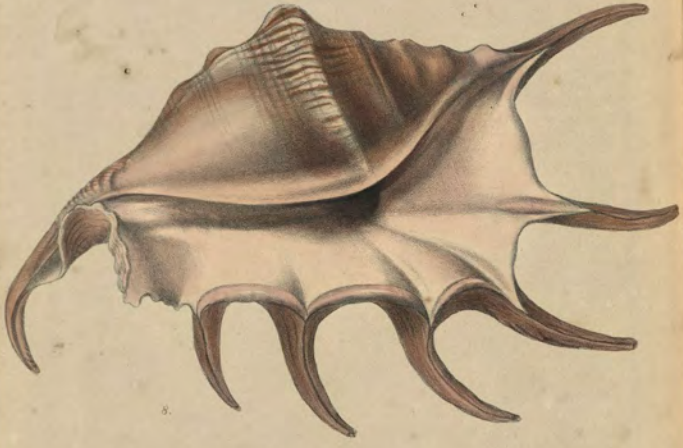
THE WRINKLED PTEROCERA. Shell ovately oblong, spire acuminated, whorls finely striated throughout, concave round the upper part, then angled, obsoletely nodulated at the angle, last whorl encircled with nodulated ribs, nodules very large, six-clawed, claws rather long, curved, broadly expanded, columella strongly wrinkled throughout, interior of the aperture finely wrinkled; whitish, spotted with reddish-brown, columella and interior of the aperture very dark purple, with the wrinkles white.

SOWERBY, Thesaurus Conch. Part 2. pl. 11. f. 9, 10.

Hab. Society Islands; Cuming.

Constantly distinguished from *P. chiragra*, with which it has been confounded, by its deep purple and white wrinkled columella.

7.



8.

PTEROCERA.

PLATE V.

Species 7. (Mus. Cuming.)

PTEROCERA AURANTIA. *Pter. testâ ovatâ, spirâ acuminatâ, anfractibus subtiliter striatis, superne concavo-declivibus, anfractu ultimo costis tuberculatis cingulato, heptadactylo, dactylis curvatis, lateralibus brevissimis, cæteris prælongis, columellâ callosâ, lævigatâ, aperturæ fauce lævigatâ; albidâ, rufescente-fusco tinctâ et maculatâ, columellâ et aperturæ fauce intense aurantiis.*

THE ORANGE PTEROCERA. Shell ovate, spire acuminated, whorls finely striated, concavely slanting round the upper part, last whorl encircled with tubercled ribs, seven-clawed, claws curved, side claws rather short, the rest very long, columella callous, smooth, interior of the aperture smooth; whitish, stained and spotted with reddish-orange, columella and interior of the aperture very deep orange.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 675.

Hab. Philippine Islands; Cuming.

This species is well distinguished from all others by its slender claws and deep orange colouring.

Species 8. (Mus. Brit.)

PTEROCERA LAMBIS. *Pter. testâ ovato-oblongâ, spirâ acuminatâ, anfractibus subtiliter striatis, superne concavis, ad angulum nodatis, anfractu ultimo fortiter tuberculatis, heptadactylo, dactylis nunc brevissimis, nunc elongatis, columellâ et aperturæ fauce lævigatis; albidâ, rufescente- aut nigro-fusco marmoratâ, columellâ et aperturæ fauce pallidè carneolis.*

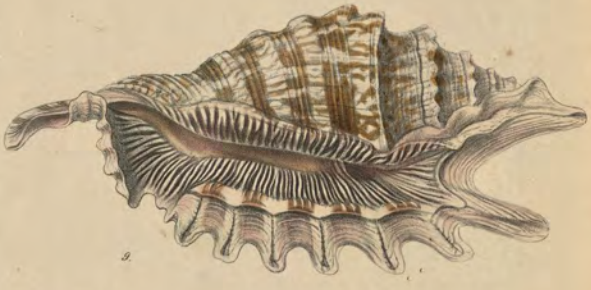
THE SPIDER PTEROCERA. Shell ovately oblong, spire acuminated, whorls finely striated, concave round the upper part, noduled at the angle, last whorl strongly tubercled, seven-fingered, fingers sometimes rather short, sometimes long, columella and interior of the aperture smooth; whitish, marbled with reddish or black-brown, columella and interior of the aperture pale flesh-colour.

Strombus lambis, Linnæus, Syst. Nat. (12th edit.) p. 1208.

Hab. Ceylon and Philippine Islands.

This well-known species inhabits the Eastern Seas in great abundance, of various sizes, rarely exceeding that of the specimen here figured.

February, 1851.



9.

10.

Brewster, del. et lith.

Reeve & Nichols imp.

PTEROCERA.

PLATE VI.

Species 9. (Mus. Cuming.)

PTEROCERA ELONGATA. *Pter. testâ elongato-ovatâ, spirâ acuminato-turritâ, anfractibus undique striatis, superne valdè concavis, ad angulum compressè nodatis, anfractu ultimo nonadactylo, columellâ callosâ, fortiter corrugatâ, labro plano-incrassato, dactylis brevibus, planatis, dactylo postico plerumque bifurcato, aperturæ fauce densè et fortiter corrugatâ; albidâ, aurantio-fusco profusè marmoratâ, columellâ et aperturæ fauce intensè purpureis, rugis albis, fauce in profundo viridè crocеâ.*

THE ELONGATED PTEROCERA. Shell elongately ovate, spire acuminately turreted, whorls striated throughout, very concave round the upper part, compressely noduled at the angle, last whorl nine-clawed, columella callous, strongly wrinkled, lip flatly thickened, claws short, flattened, posterior claw generally bifurcate, interior of the aperture densely and strongly wrinkled; whitish, profusely marbled with orange-brown, columella and interior of the aperture deep purple, with the wrinkles white, depth of interior bright saffron-yellow.

SWAINSON, Exotic Conch. App. p. 32.

Pterocera scorpius dactylis instructus, Chemnitz.

Pterocera millepeda, pars, Lamarck.

Pterocera crocea, Sowerby.

Hab. ——?

The principal characteristic of this species is the thickened festooned growth of the side claws, and the saffron-yellow colouring of the shell in its far interior. It was first described and figured by Chemnitz, but he failed to name it in accordance with the recognized form of nomenclature founded by Linnæus.

Species 10. (Mus. Cuming.)

PTEROCERA MILLEPEDA. *Pter. testâ ovato-oblongâ, spirâ subabbreviatâ, anfractibus undique striatis, superne concavis, ad angulum fortiter nodatis, nodis tumidiusculis, anfracta ultimo tuberculato, decadactylo, columellâ et aperturæ fauce undique superficialiter rugosis, dactylis lateralibus brevibus, curvatis; albidâ, aurantio-fusco tinctâ et sparsim maculatâ, columellâ et aperturæ fauce fumeo-purpurascentibus, rugis albicantibus.*

THE THOUSAND-FOOTED PTEROCERA. Shell ovately oblong, spire somewhat abbreviated, whorls striated throughout, concave round the upper part, strongly noduled at the angle, nodules rather swollen, last whorl tubercled, ten-clawed, columella and interior of the aperture superficially wrinkled throughout, lateral claws short, curved; whitish, stained and partially spotted with orange-brown, columella and interior of the aperture smoky-purple, wrinkles whitish.

Strombus millepeda, Linnæus, Syst. Nat. (12th edit.) p. 1208

Pterocera millepeda, pars, Lamarck.

Hab. Philippine Islands (on the reefs at low water). Cuming.

The *P. multipes, elongata*, and *millepeda*, were all colo founded by Lamarck under one species.

February, 1851.

MONOGRAPH

OF THE GENUS

ROSTELLARIA.

Lives there the man whose universal eye
Has swept at once the unbounded scheme of things,
Marked their dependence so, and firm accord,
As with unfaltering accent to conclude
That this availeth nought?—*Thomson.*

Rostellaria, Pl. I.
1. a.
1. b.
2.
3. a.
3. b.
Sowerby, del et lith.
Reeve & Nichols, imp.

ROSTELLARIA.

PLATE I.

Genus ROSTELLARIA, *Lamarck*.

Testa fusiformis, basi in canalem interdum gracillimum et elongatum desinens, spirâ valdè acuminatâ, anfractibus nunc lævibus, nunc costatis aut sulcatis, labro muricato-dentato, supernè canaliculato-producto, interdum expanso et digitato. Operculum corneum, oblongum, angustum, medio costatum.

Shell fusiform, ending at the base in a canal, which is sometimes very long and slender, spire very much acuminated, whorls now smooth, now ribbed or grooved, lip prickly-dentate, canaliculately produced at the upper part, sometimes expanded and digitated. Operculum horny, oblong, narrow, ribbed down the middle.

The genus *Rostellaria*, which is here adopted provisionally in its Lamarckian form, under an impression that the species which have been detached from it are not yet satisfactorily understood, comprises three distinct groups. The first, which may be regarded as the type of the genus, includes *R. curvirostris*, *curta*, *fusus*, and *Povisii*. The shells are large and fusiform, with little sculpture, and have the lip conspicuously prickly dentated, and produced more or less over the penultimate whorl into a channel. The second form is represented by two species, *R. cancellata* and *crispata*, of very much smaller dimensions, in which the shell is of a different substance, and elaborately sculptured like the small Tritons. In these the lip is not dentated; it still rises up into a canal, after the manner of the typical *Rostellaria*, extending in one of the species nearly to the apex. The third form included under *Rostellaria* by Lamarck, comprises those species which have been separated by common consent, on account of a difference in the animal, under the title of *Aporrhais*. These are *R. pespelecani*, *pes-carbonis*, and *occidentalis*. In the first two species the lip is expanded into very prominent claws, in the last it is widely expanded but not clawed.

Professor E. Forbes proposes to associate the genus *Aporrhais* along with *Cerithium*, in a family, *Cerithiadæ*, owing to certain corresponding features of the animal. This family he describes as being closely allied on the one hand to the *Turritellidæ*, and on the other to the *Scalariadæ*. It is not intended here to differ from so high an authority on living mollusca, not having adequate data for so doing, but it may be stated that all the observations derivable from the form, growth, and substance of the shells point to a different conclusion. The relationship between *Aporrhais* and *Cerithium* he derives from a similarity between the animals, but it is very difficult to understand how two genera, whose shells in all the species are of so uniform and distinct a type, can be constructed by a similar animal. It is a remarkable feature in the shell of *Aporrhais* and of the family *Alata*, that a sudden departure from the spiral plan of convolution is given to the shell on arriving at maturity. This is not so in *Cerithium*, nor in any other genus of mollusks. Professor Forbes remarks that "the affinities of *Aporrhais* and *Cerithium* are very evident when we look at the young shells of the former." The same may be said of *Strombus* and *Conus*. The shells of many genera, far removed from each other, agree in their plan of convolution up to a certain age, yet differ widely before reaching maturity. The relationship between *Aporrhais* and the *Scalariadæ* is said to be better traced in fossil than in living examples. In having recourse to the shell for this affinity, it should be borne in mind that the adult shell of *Scalaria*, throughout a hundred species, is of the simplest tubular form, and what is prbably of more importance in reference to the animal, of a peculiar semi-transparent substance, mostly colourless. So far as regards the shell, *Scalaria* is peculiarly distinct in all respects from *Aporrhais*.

The typical species of *Rostellaria* inhabit the Red and China Seas, the second group is from the Philippine Islands, and the third inhabits the coasts of Europe and Newfoundland.

Species 1. (Mus. Cuming.)

ROSTELLARIA PES-CARBONIS. *Rost. testâ fusiformi, spirâ acuminato-turritâ, anfractibus transversim undique conspicuè minutè striatis, medio tumidis et eximiè obliquè plicatis, anfractu ultimo bi-tricarinato, carinis minutè plicato-nodatis, in alam acutè quinquedactylam latè expanso; semipellucido-albâ, fuscescente partim tinctâ.*

THE CORMORANT'S FOOT ROSTELLARIA. Shell fusiform, spire acuminately turreted, whorls transversely conspicuously minutely striated throughout, swollen and delicately obliquely plicated round the middle, last whorl two- three-keeled, the keels being minutely plicately noduled, broadly expanded into a sharp five-clawed wing; semi-transparent white, partially tinged with light brown.

March, 1851.

Aporrhais pes-carbonis, Brongniart, Terr. du Vincent, p. 75. pl. 4. f. 2.
Rostellaria Serresiana, Michaud.
Rostellaria pes-pelicani, *var.*, Kiener.
Chenopus pes-carbonis, Deshayes.
Chenopus Serresianus, Philippi.
Hab. Zetland (at a depth of from seventy to a hundred fathoms); M'Andrew.

Distinguished mainly from *R. pes-pelecani* by its more slender and delicate growth, and in having an additional claw.

Species 2. (Mus. Cuming.)

ROSTELLARIA CURVIROSTRIS. *Rost. testâ fusiformi-turritâ, obesâ, ponderosâ, spirâ valdè acuminatâ, anfractibus subplanatis, paucis primis longitudinaliter costatis, cæteris lævibus, epidermide crassiusculâ indutâ, columellâ arcuatâ, callosâ, labro sex-septemdentato, supernè conspicuè canaliculato-producto; fulvo-fuscescente, columellâ et aperturæ fauce albis.*

THE CURVED-BEAK ROSTELLARIA. Shell fusiformly turreted, stout, heavy, spire very much acuminated, canal short, curved, whorls rather flattened, a few early whorls longitudinally ribbed, the rest smooth, covered with a rather thick epidermis, columella arched, callous, lip six- to seven-dentate, conspicuously canaliculately produced above; light fulvous-brown, columella and interior of the aperture white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 654.
Rostellaria brevirostra, Schumacher.
Rostellaria fusus, Sowerby.
Hab. Red Sea.

This well-known species, which is found in great abundance, is well characterized by its stout growth and curved canal.

Species 3. (Mus. Cuming.)

ROSTELLARIA PES-PELECANI. *Rost. testâ fusiformi, spirâ acuminato-turritâ, anfractibus transversim tenuistriatis, medio angulatis, ad angulum obliquè plicato-nodatis, suturis marginatis, anfractu ultimo tricarinato, carinis duabus centralibus prominentibus, obliquè plicato-nodatis, in alam quadridactylem expanso, dactylis incrassatis, acuminatis; albidâ, pallidè fuscotinctâ.*

THE PELICAN'S FOOT ROSTELLARIA. Shell fusiform, spire acuminately turreted, whorls transversely finely striated, angled in the middle, obliquely plicately noduled at the angle, sutures margined, last whorl three-keeled, the two central keels being prominent and obliquely noduled, expanded into a four-clawed wing, claws thickened, sharp-pointed; whitish, tinged with light fulvous colour.

Strombus pes-pelecani, Linnæus, Syst. Nat. (12th edit.) p. 1207.
Rostellaria pes-pelicani, Lamarck.
Aporrhais quadrifidus, Da Costa.
Tritonium pes-pelicani, Müller.
Chenopus pes-pelecani, Philippi.
Aporrhais pes-pelecani, Swainson.
Hab. Coasts of Europe (from a depth of from four to a hundred fathoms); Forbes.

This species differs mainly from *R. pes-carbonis* in its more thickened solid growth, and in having one claw less.

ROSTELLARIA.

PLATE III.

Species 8. (Mus. Cuming.)

ROSTELLARIA CRISPATA. *Rost. testâ fusiformi, crassiusculâ, spirâ acutâ, anfractibus rotundatis, bivaricosis, longitudinaliter crebricostatis, interstitiis liris parvis numerosis nitidè cancellatis, columellâ rectâ, callosâ, labro valdè incrassato, cancellato, supernè eleganter crispato, aperturâ pared; glauco-griseâ, aperturæ fauce castaneâ, columellâ labroque albidis.*

THE CURLED ROSTELLARIA. Shell fusiform, rather thick, spire sharp, whorls rounded, two-varicose, longitudinally closely ribbed, interstices neatly cancellated with numerous small ridges, columella straight, callous, lip very much thickened, cancellated, elegantly curled at the upper part, aperture small; glaucous grey, interior of the aperture chestnut, lip and columella whitish.

Strombus crispatus, Sowerby, Thesaurus Conch. p. 26. pl. 8. f. 62, 63.

Rostellaria crispata, Kiener.

Hab. Philippine Islands; Cuming, Belcher.

This interesting little species, very closely allied to *R. cancellata* in form and sculpture, is remarkably distinguished by the peculiar manner in which the sinuous production of the lip is suddenly curled backwards.

Species 9. (Mus. Cuming.)

ROSTELLARIA CURTA. *Rost. testâ fusiformi-turritâ, spirâ valdè acuminatâ, canali recto, anfractibus subplanatis, parcis primis longitudinaliter costatis, cæteris lævibus, columellâ callosâ, labro quadri- vel quinque-dentato, supernè canaliculato-producto, canali brevisculo, subrecurvo; fulvo-fuscescente, fasciâ latiusculâ pallidè castaneâ infra suturas, columellâ et aperturæ fauce albis.*

THE SHORT ROSTELLARIA. Shell fusiformly turreted, spire very much acuminated, canal straight, whorls rather flattened, the first few whorls longitudinally ribbed, the rest smooth, columella callous, lip four- to five-dentate, canaliculately produced at the upper part, the canal being rather short and curved backwards; light fulvous-brown, with a rather broad pale chestnut band beneath the sutures, columella and interior of the aperture white.

SOWERBY, Pro. Zool. Soc. 1842.

Hab. —— ?

The form of this shell is certainly distinct from any variety that I remember to have seen of *R. curvirostris*, from which it differs principally in the canal being straight. It is impossible to characterize the length of the canal, as it appears to have been filed at the extremity. The species has not been confirmed by the discovery of a second specimen.

Species 10. (Mus. Cuming.)

ROSTELLARIA CANCELLATA. *Rost. testâ fusiformi, crassiusculâ, spirâ acutâ, anfractibus subrotundatis, bivaricosis, longitudinaliter crebricostatis, interstitiis liris parvis numerosis nitidè cancellatis, columellâ callosâ, leviter recurvâ, labro incrassato, supernè apicem versus gracilè canaliculato-producto; glaucescente-fuscâ, maculis pareis rubidis fasciatim tinctâ, columellâ labroque albis, aperturæ fauce pallidè castaneâ.*

THE CANCELLATED ROSTELLARIA. Shell fusiform, rather thick, spire sharp, whorls somewhat rounded, bivaricose, longitudinally closely ribbed, interstices neatly cancellated with numerous small ridges, columella callous, slightly recurved, lip thickened, slenderly canaliculately produced at the upper part towards the apex; light glaucous-brown, stained with bands of small red spots, lip and columella white, interior of the aperture light chestnut.

Strombus cancellatus, Lamarck, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 710.

Rostellaria cancellata, Kiener.

Strombus fissurella, Sowerby.

Hab. Philippine Islands; Cuming, Belcher.

This species is more attenuated and compressed than *S. crispatus*, and the channelled production of the lip, instead of being suddenly curled backwards on the penultimate whorl, is continued towards the apex over three or four whorls.

MONOGRAPH

OF THE GENUS

STRUTHIOLARIA.

Search Nature's depths, and view her boundless store,
The secret cause in tuneful numbers sing.—*Falconer.*

1.

2.

3.

4. a.

4. b.

Sowerby del. et lith.

Harris & Nicholls imp.

STRUTHIOLARIA.

PLATE I.

Genus STRUTHIOLARIA, *Lamarck.*

Testa oblongo-ovalis, spirâ exsertâ, anfractibus superne plus minus nodoso-angulatis, columellâ valdè callosâ, excavatâ, subtortuosâ, basi obtusè truncatâ, labro plerumque incrassato, peculiariter sinuato.

Shell oblong-oval, spire exserted, whorls more or less nodosely angled round the upper part, columella very callous, excavated, slightly twisted, obtusely truncated at the base, lip generally thickened, peculiarly sinuated.

The genus *Struthiolaria*, which is intimately allied with *Struebus* and *Rostellaria*, consists of four species only. They are limited to particular localities, and have been long known. Three inhabiting New Zealand, were named and figured by Martyn in 1784, and the fourth, from New Holland, was described by Lamarck. Owing to the difficulty of getting access to the work of the English conchologist, a great deal of confusion has arisen in the nomenclature of this genus. Chemnitz, however, had a copy of the work, and it is to be regretted that Martyn's specific names were not followed in the Conchylien Cabinet.

Species 1. (Mus. Cuming.)

STRUTHIOLARIA AUSTRALIS. *Struth. testâ ovatâ, ventricosâ, spirâ turritâ, suturis interdum simplicibus, interdum canaliculatis aut plano-excavatis, anfractibus transversim striatis et superficialiter sulcatis, superne leviter declivibus, ad angulum minutè nodulatis, nodulis interdum evanidis; albidâ, fuscescente tinctâ et pallidè strigatâ, columellâ et labri limbo aurantiis.*

THE AUSTRALIAN STRUTHIOLARIA. Shell ovate, ventricose, spire turreted, sutures sometimes simple, sometimes channelled or flatly excavated, whorls transversely striated and superficially grooved, gently slanting round the upper part, minutely noduled at the angle, nodules sometimes obsolete; whitish, stained and faintly streaked with light brown, columella and edge of the lip tinged with orange.

Murex Australis, Gmelin, Syst. Nat. p. 3542,
Struthiolaria crenulata, Lamarck.
Struthiolaria inermis, Sowerby.
Struthiolaria vermis, Deshayes.

Hab. Australia.

This species, first described by Gmelin, and the only one from Australia, is not the *Buccinum vermis* of Martyn, as supposed by M. Deshayes. It is uniformly of smaller size, the nodules are closer together, and in specimens at all larger than that in the accompanying plate, the nodules are generally obsolete. The shell figured by Martyn is much larger than the largest individual known of the species under consideration; it is, without doubt, an immature specimen of Mr. Sowerby's *Struthiolaria gigas*. In *S. crenulata* the sutures of the whorls are sometimes broadly channelled throughout.

Species 2. (Mus. Cuming.)

STRUTHIOLARIA SCUTULATA. *Struth. testâ ovato-conicâ, crassâ, ponderosâ, spirâ exsertâ, suturis valdè callosis, anfractibus superne declivibus, deinde obtusè bicarinatis, apicem versus minutè nodulis, columellâ callosâ, aperturâ parvâ, labro simplici; flavido-spadiceâ, lineis tenuibus fuscis longitudinaliter flexuoso-striatâ, callositate suturali albâ.*

THE COMBER-MARKED STRUTHIOLARIA. Shell ovately conical, thick, ponderous, spire exserted, sutures very callous, whorls slanting round the upper part, then obscurely two-keeled, minutely nodulose towards the apex, columella callous, aperture small, lip simple, yellowish fawn-colour, longitudinally flexuously streaked with fine brown lines, sutural callosity white.

Buccinum scutulatum, Martyn, Universal Conchologist, vol. ii. pl. 55.
Struthiolaria scutulata, Deshayes.
Struthiolaria oblita, Sowerby.

Hab. New Zealand.

Distinguished by its solid channelled growth, and simple lip, and by the sutures of the spire being filled with callosity. The painting consists of numerous flexuous hair-lines. Chemnitz's figure of this species appears to be a copy of that of Martyn.

Species 3. (Mus. Cuming.)

STRUTHIOLARIA PAPULOSA. *Struth. testâ pyramidali-ovatâ, spirâ subturritâ, anfractibus undique tenuè et creberrimè sulcatis et striatis, superne concavo-declivibus, acutè angulatis, ad angulum muricato-nodosis,*

columellâ labroque callosis; sordidè spadiceâ, fusco hic illic longitudinaliter tenuè strigatâ.

The pimpled Struthiolaria. Shell pyramidally ovate, spire somewhat turreted, whorls finely and very closely grooved and striated throughout, concavely slanting round the upper part, sharply angled, prickly-noduled at the angle, lip and columella callous; dirty fawn-colour, longitudinally finely streaked here and there with brown.

Buccinum populosum, Martyn, Universal Conchologist, vol. ii. pl. 54.

Murex pes struthiocameli, Chemnitz.

Murex stramineus, Gmelin.

Struthiolaria nodulosa, Lamarck.

Struthiolaria straminea, Sowerby.

Hab. New Zealand; W. Mantell.

This well-known species, the most abundant of the genus, is well distinguished by its numerous grooves and striæ, and by its prominent sharp nodules.

Species 4. (Mus. Cuming.)

Struthiolaria vermis. *Struth. testâ pyramidali-ovatâ, crassiusculâ, spirâ suturis subcanaliculatis, anfractibus transversim striatis et sulcatis, striis alternatim majoribus, subirregularibus, superne declivibus, viz angulatis, ad angulum nodatis, nodis parcis, subdistantibus, columellâ labroque valdè incrassatis; sordidè fulvâ, fusco pallidè strigatâ, nodis albidis.*

The worm Struthiolaria. Shell pyramidally ovate, rather thick, sutures of the spire slightly channelled, whorls transversely striated and grooved, striæ alternately larger, rather irregular, sloping round the upper part, slightly angled, noduled at the angle, nodules small and rather distant, lip and columella very much thickened; dirty fulvous colour, faintly streaked with brown, nodules white.

Buccinum vermis, Martyn, Universal Conchologist, vol. ii. pl. 53.

Struthiolaria gigas, Sowerby.

Struthiolaria populosa, Desbayes.

Hab. New Zealand.

This fine species differs principally from the more common *S. populosa*, in being less sharply angled, and in the nodules being smaller and more distant from each other, in the sutures being slightly channelled, in the striæ being alternately larger and smaller, and in the very solid thickening of the lip.

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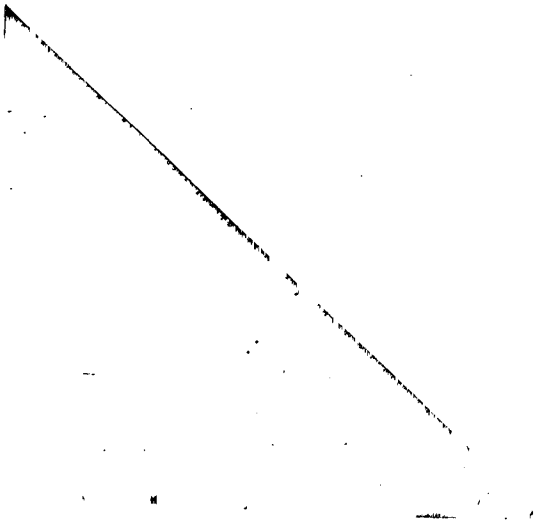

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